TO ASSESS THE SEXUALITY AMONG THE ADOLOSCENT : A CROSS SECTIONAL STUDY

Thesis Submitted To

SANTOSH DEEMED TO BE UNIVERSITY

(Established u/s 3 of the UGC Act, 1956)

For the Award of degree Of

DOCTOR OF MEDICINE IN PAEDIATRICS

By

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(2020-2023)

Under the guidance of

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INTRODUCTION

"Live as long as you may ; the first twenty years are the longest half of your life"

Robert Southey,

Adolescence is a phase of life of a person when he is no more a child and not yet adult. The period of adolescence has allured philosophers, thinkers and sociologists since the early history of mankind. Aristotle (4th Century BC) commented that adolescents think that they know everything and are quite sure of it! The French philosopher Rousseau (16th Century) thought that reasoning develops in adolescence. The father of scientific research in adolescence, Stanley hall devised the concept that adolescence is a turbulent time charged with conflict and mood swings.[1]

Adolescence is derived from a latin word meaning "to grow to maturity".[2]The period when maximum amount of physical, emotional, psychological and behavior changes that takes place. It is a transition from socio-economical and emotional dependence to relative independence. WHO defines adolescents as individual in 10-19yrs age groups and youth as in 15-24 yrs. of age groups.[3]

Aldolescence is often divided as early adolescence which is described as physiological revolution requiring individual to integrate sexual impulses resulting from hormonal upsurgence, their natural productive capabilities and opportunities offered in social role. Middle adolescence (15-17years) is described with more abstract, long-range thinking which is preoccupied with romantic fantasy and testing ability to attract the opposite sex. Late adolescence (17-21years) described by future oriented, intellectual and functional identified behavior. It is a Phase of transposition of child- parent relationship to adult-adult relationship.[4]

Since adolescence is characterised by uneven progressions in the development of brain structures and mental processes that are associated with emotions, interpersonal relationships (empathy, social bonding), aggression, impulsive behaviours and the capacity for logical and critical thought, it is also a period associated with confusion, frustration, despair and risk-taking behavior.[5,6] World Health Organisation Global Reproductive Health Strategy (WHO, 2004, Document No.WHO/RHR/04.8) addressed the sexual and reproductive health awareness, their needs and their problems as one of their crucial strategies.[7]

Adolescence is the age to explore and understand sexuality. A keen understanding of sexuality is instrumental in leading a healthy life. Intrusiveness or our thirst for knowledge about

sexuality develops right from the very early stage of life and afterwards childhood experiences go a long way in shaping adulthood sexuality. If we look at sexuality from a developmental perspective, identification and awareness about gender is an important element, which often develops by the age of three years. Going ahead, gender identification and awareness intensifies at around puberty, when secondary sexual characteristics clearly manifest themselves and become all the more evident. Freudian theory of psycho-sexual development brings about the conceptual evolution of sexuality across ages. It is a natural instinctual tendency of human beings to explore about sexuality from an early age.[8]

The relation or association of linkage of adolescent and adult sexuality are described with four domains of the sexual response cycle. They are sexual desire, sexual arousal, sexual function, and sexual behaviors . These four domains are well-developed in adult sexuality.

In the world one in every five people is an Adolescents. In India 22.8% of population constitute Adolescent, out of 1.2 billion Adolescents worldwide about 85% live in developing countries and the remaining live in the industrialized world. In India there are 15 million Adolescents comprising 22.8% of India's total population.[9]

Most of the adolescents in developing countries face health risks with too little factual information, too little guidance on sexual responsibility and lack of access to health care. Their education and perception about their reproductive health, their preparation to take on adult roles and responsibilities, the support they receive from their families, peer groups and health care facilities in the community etc. determine their future.

Evidence suggests that current status of knowledge and neglect can seriously jeopardize the health and future well-being of young people. Accordingly, sex education (for adolescents and their parents) helps in developing responsible attitudes and behavior towards sex. Sex education implants a scientific attitude towards natural sexuality, dispels myth & produce facts and also clarifies aspects of sexuality.[6] Parents and other family members work as agents to socialize adolescents into healthy sexual beings; they provide them with accurate information about healthy and safe sex practices and foster responsible sexual decision-making skills

Adolescents today are growing up in circumstances quite different from those our parents with greater knowledge was gained through formal education, thus, increasing need for technological skills like computer and internet literacy, different job opportunities and more

exposure to new ideas through e-media telecommunications and other avenues (UNFPA, Generation of Change: Young people and Culture, 2008).[10] in order to rates the sexual initiation during young adulthood are rising or remaining unchanged in many developing countries including India, childbearing and marriages are increasingly becoming unlinked and high HIV prevalence adds to the risks associated with early sexual activity. [11]

Hence, in the faces of the new challenges and restricted resources in a developing country like India, newer researches are required to develop databases for improved maternal health, reduced infections, better nutritional level of the child bearing aged adolescents and their better mental health status. With its unique demographic feature and burden of trends of reproductive age group of population, the adolescent reproductive health care has received importance from National Health Programs.[10]

WHO (2009), concept about sexual health, is an coalescence of physical, emotional, intellectual and social aspects of sexuality in a way that positively enchances and promotes personality communication and love.

Claudia Gamel, I (2008)[12], a study of nurses who care for Adolescence indicated that although nurses recognize the importance of sexuality, they are not addressing sexuality issues on their practice because of lack of knowledge, embarrassing and their belief that the patient embarrassed. Adolescence entering the health care system needs professional who can focus on normal development, asses strength and give assurance of positive progress by focusing on ‘’Normality “instead of diseases recognizing changes that occurs during the Adolescence period will definitely give a positive attitude nurses are in position to help Adolescence to resolve one basic issue coming to turns with once body. Nurses must plan with other for specialist service to support the majority of Adolescence who are coping well and at the same time they develop stages to identify and help the minority in difficulties.

Padmini Prasad (2005)[13] said sex education is the need of the hour and it should involve telling Adolescence about physical growth, psychological and responsible sexual behaviour. Right place to inculcate is in schools. The meaningful explanation of selected aspects of sex education would prevent the needless suffering of thousands of girls who grow up in an environment of ignorance and superstitions nurses can help young Adolescent to understand the normal and physical and psycho-social changes taking place during the puberty. So that they may learn to see it as positive change “young people need help in making healthy decision”.

"Investing Adolescent health and rights will yield large benefits for generations to come" and "healthy Adolescent wealthy nation" (Health action, April 2007)

NEED FOR STUDY

Education about sexuality is often held as a taboo in Indian culture. Indian culture sporadically encourages discussing sex and sexuality openly. Often, people blame the ancient Indian system for the prevailing mind set. However, it sounds nothing less than illogical. Had the ancient Indian system not been that resilient and advanced in bequeathing effective sex education in the society, the erotic sculptures and the popular literatures on sexuality like Kamasutra, Rati Rahasya, Smara Pradipa, Ananga Ranga might not have been created by our ancestors. Endowing sex education is both a science and an art. It needs the educator to be properly trained first before being tasked to educate others.

Currently, the scope of sexuality education is limited to basic anatomy and physiology of the reproductive system in most educational curriculums.

In a study from Kolkata of adolescent girls, **Das et al**. found that many of them had poor knowledge on matters related to sexuality, sexually transmitted diseases. They also suggested that regular surveys on sexual attitudes, knowledge, and behaviors are essential in understanding the epidemic of sexually transmitted diseases.[14] **TSS Rao** in an editorial had emphasized the need for assessment of attitudes and beliefs in regard to sexuality.[15]

In view of the above, this study was undertaken to ascertain what kind of attitudes and behaviors are likely to be associated with increased chances of sexual activity.

REVIEW OF LITERATURE

Adolescence is a time when individual personality develops triumphs and tribulations. The adolescent body goes through numerous biological, psychological and behavioural changes . The adolescent mind matures and attains new abilities that habors relational skills which were not previously available.[16] Simultaneously, adolescents' social relationships become more central; they experience significantly less dependency on family for emotional support as they progress towards independence.[17,18]

Sexuality is a multifaceted construct influenced by society, biology, as well as psychology. It has cognitive, interpersonal, intrapersonal, and behavioral components and expressions. Biology and social interactions shape sexual identities, attitudes and beliefs toward sex, as well as sexual behavior. Sexuality manifests differently at various stages of the life cycle, with each stage heralding the next. Each developmental juncture has new milestones to achieve and manage.[16]

To understand the significance of sexuality during adolescence, we need to consider how it fits into the biological, psychological and social aspects of adolescent development. At the biological level, sexuality is the central feature, marked by the onset of puberty which signals maturation of the reproductive organs, the possibility of becoming a parent and an increasing sex drive. With puberty, changes at the psychological level have to do with readiness for taking on adult roles, including sex and procreation. There is a shift from a primary orientation to one's family to a reliance on peers for providing guidelines for attitudes and behaviour, as well as a clarification of goals and the development of interpersonal skills and attitudes. This occurs within a context of expanded cognitive skills which allow the adolescent to evaluate alternative points of view. At a broader level, social forces shape adolescents' sexuality by establishing and re-establishing values and norms relating to sexuality and expectations tied to gender.[19]

Sexual questions, conflicts and crises may begin prior to adolescence and may certainly continue after this phase of life but there is no doubt that, for most people, adolescence is a 'critical period' in the upsurge of sexual drives, the development of sexual values and the initiation of sexual behaviours. The advent of puberty, the power of peer group expectations

and the communication of mixed messages about sex from the adult generation make dealing with sexuality a difficult but exciting challenge for adolescents.[19]

Sexuality is a normative event in adolescent development with the potential for both positive and negative consequences. All theories of adolescent development give sexuality a central place in negotiating the transition from child to adult. The sexual urges which emerge at puberty must be blended with other aspects of teenagers' lives and channelled adaptively. It is especially important that the adolescent be able to integrate his or her sexual feelings, needs and desires into a coherent and positive self-identity which contains, as one aspect, a sexual self.[18]

Unlike many of the activities we engage in, expression of our sexuality (for the most part) involves a relationship, no matter how limited or fleeting, with another individual. Sexual expression allows, indeed requires, a unique exposure of the self to another. On the one hand there is the possibility of validating one's sense of self-worth and achieving a deeply satisfying intimate relationship. On the other hand, wrong choices can lead to destructive outcomes, to feelings of anxiety and guilt and to a sense of unworthiness. For adolescents who are in the process of forging a satisfying and satisfactory sense of their own identity and their place in the world, dealing with these issues is a crucial part of their development.[19]

BIOLOGY OF SEXUAL DEVELOPMENT

Adolescent sexuality is inextricably tied up with the events of puberty, in which the adolescent's body develops its adult shape and reproductive functioning, and hormonal changes affect sex drives in complex ways. Although biological development does not tell us everything about how and why we behave sexually, understanding of these processes is vital if the whole picture of sexual development is to emerge.[19]

For the first six weeks of life, the human embryo is sexually undifferentiated. During the prenatal period, gonadotropin-releasing hormone (GnRH) is produced by specialized neurones in the brain. These neurones intermittently secrete pulses of hormone from nerve terminals in the hypothalamus, which in turn sends signals to the pituitary gland (a small organ at the base of the brain), to secrete the gonadotrophic hormones responsible for sexual differentiation.[20]

In the normal course of events, males develop testicles and, somewhat later, females develop ovaries. These structures, termed gonads, themselves produce hormones which further direct the development of male and female internal and external sex organs. Hormone secretion and balance is controlled by the reproductive endocrine system, involving complex interactions between the brain, the pituitary gland and the gonads. Both male and female reproductive systems produce androgen (the masculinizing hormone) and oestrogen (the feminizing hormone), but it is the concentration and balance of these hormones throughout life that determine male or female morphology and, to some extent, behaviour. In utero, testicles produce enough androgen to dominate the oestrogen in the male, while ovaries produce enough oestrogen to dominate the androgen in the female. Once sexual differentiation has occurred, GnRH secretion declines and hormone pulsing rates decrease dramatically and remain that way right through to the pre-pubertal period.[21]

Puberty begins when GnRH secretion gradually increases to a high enough level to stimulate gonadotropin hormone (luteinizing hormone and follicle stimulating hormone: LH & FSH) and steroid hormone (testosterone and oestrogen) secretion, resulting (eventually) in sexual maturation. The 'trigger' for this increase in GnRH and so the onset of puberty is hotly debated, and various possibilities will be discussed in a later section. Suffice to say at this point that brain functioning is implicated, and a 'puberty gene' (GPR54) has been postulated (but not yet proven) to drive this neurological change.[22 ,20] The relationship between neural functioning and hormone secretion appears to be a two-way street. Not only does the brain have a role in triggering hormone release, but it has also been postulated that hormonal differences between males and females affect brain structure and function.[23,24,25] Both Bardwick and Kimura concluded on the basis of some animal studies that brain differences arise in the prenatal and early infancy stages of life as a result of the effects of the sex hormones on the central nervous system.[23]

There are possibilities for complex interactions between hormone levels, moods, behaviours and other biological and social variables. These include an individual's sensitivity to the various hormones, his or her predisposition towards the behaviour of interest, or contextual factors such as strong social sanctions against certain behaviours. For example, the level of circulating testosterone in boys is a significant predictor of sexual arousal, coital activity, masturbation, thinking about sex and future intentions with respect to sexual activity.[26, 27& 28] For girls, the adrenal androgens—including testosterone—predict non-coital sexual activity (such as fantasy and masturbation) and arousal. But prediction of

actual sexual intercourse depends on social conditions such as best friend's sexual activity, the girl's participation in sports or the presence of father in the home.[28] It seems that the behavioural concomitants of testosterone for girls are modified by the social forces surrounding the expression of female sexuality, including the influence of significant others.

FUNCTIONING OF BRAIN IN ADOLESCENCE

The brain undergoes dynamic changes during childhood and adolescence. Researchers such as Giedd have conducted longitudinal studies, using MRI technology to scan the brains of thousands of children at regular intervals as they grow towards adulthood. One finding is that grey matter in the cortex (the part of the brain responsible for cognition) has a U-shaped developmental growth pattern. There is an intense period of growth just prior to puberty, possibly related to the influence of sex hormone production.[29]

Grey matter peaks in volume at about 11 or 12 years, then 'prunes back' between about 13 and 18 years. In this process, grey matter is lost as synapses reduce in number, but those remaining are surrounded by white matter (myelin), stabilizing and strengthening neural connections.

Neuroscientists believe that the period of pruning is as important as the period of neuronal growth in childhood, because it leads to a consolidation of learning. Giedd argues for the importance of adolescents engaging in activities that stimulate and 'exercise' the brain connections important for cognitive and psychomotor skills in adulthood, such as those involved in playing sport, academic study and learning music. The grey matter growth spurt of preadolescence is mostly in the frontal lobe of the cortex, the area most responsible for impulse control, planning, reasoning and decision making. Functional brain imaging and post-mortem studies suggest that growth of grey matter (and its pruning) continues into early adulthood, with the frontal lobe regions of the brain not reaching full maturity until early adulthood.

In one study, researchers looked for differences between the brains of teenagers and young adults, and found greatest differences in the frontal lobes.[30] Implications of these studies are that adolescents not only experience an extensive remodelling of the body as they reach puberty, but an extensive remodelling of the brain. While this remodelling is going on, some capacities may actually decline temporarily, while others may develop in a more continuous growth pattern. Some brain changes of the teenage years have been shown to

be associated with outcomes such as difficulties in reading others' emotions[31, 32], and greater sensitivity to emotion-altering recreational drugs.[33] Brain developments are also likely to be implicated in temporary difficulties in impulse control and impaired decision-making Changing hormones, changing bodies 55 among some adolescents. On the positive side, frontal lobe development and myelinization lead to increasing capacity for reasoning, planning and rational thought.

PSYCHOLOGICAL ASPECT

Our knowledge of the psychological meaning of this sign that fertility is developing in boys is far less detailed than our knowledge of the effects of menstruation. First ejaculations may be a source of guilt in boys if they are associated with masturbation [34] although the severe social condemnation of masturbation and its presumption as the cause of various health problems is largely a thing of the past as we saw earlier. Gaddis and Brooks-Gunn (1985)[35] interviewed a small sample of adolescent boys about their emotional reactions to first ejaculation and found that two-thirds of the sample felt a little frightened by the experience although most had positive responses. Unlike girls, who had mostly discussed their first menstruation quite extensively with their mothers, none of the boys had discussed ejaculation with their peers and only one had mentioned the event to his father. Furthermore, the boys were extremely reluctant to engage in such discussions. Apparently, this reluctance does not only stem from the boys. Frankel (2002)[36] asked a small sample of parents of young adolescent boys whether they had communicated with their sons about first ejaculation, or whether they were intending to do so. Parents reported that they had rarely engaged in such communications, the majority (54 per cent) indicated that never thought about it. Due to Changing of hormones, changing of bodies in the sexual maturation of boys is a problem and difficulties they have in controlling erections is well documented in folklore but not in research as yet. Such events may be embarrassing and humiliating or coped with readily via joking and humour.[34] We do not really know how most young boys feel about untimely or unexpected erections. Further research on the psychological meaning of sexual maturation in adolescent boys is important but difficult to carry out because boys are embarrassed to talk about these sexual topics in a serious way.[35]

PUBERTY DEVELOPMENT AND INTIAITION OF SEXUAL BEHAVIOUR

The link between pubertal development and the initiation of sexual behaviour is extremely complex because, although our hormones affect us, we are also strongly influenced by the

social lens through which we view sex. Marshall and Suggs (1971)[37] have described the sexual behaviours of the inhabitants of Inis Beag (a small island off the coast of Ireland) and of Mangaia, an island in the South Pacific. The first of these is a sexually restrictive culture, in which it is reported that a number of sexual activities common to western developed nations are unknown (such as French kissing and hand stimulation of the genitals), sex education is rare, nudity is considered disgusting and intercourse bad for the health. Premarital sex in this society is unknown, yet puberty occurs as it does among all human beings.

The physiological changes that accompany puberty do not lead inevitably to sexual experimentation, presumably because hormonally related events are not interpreted in a way which allows for this to happen. In contrast, the Mangaian adolescent is instructed in awareness of his or her genitals, trained in the arts of lovemaking by older women and encouraged to have many sexual experiences with a number of partners before settling down with a marriage partner. Puberty is considered a milestone in development and sexual behaviour is socially sanctioned to occur subsequently. There is, nevertheless, in western society, a clear association between the signs of pubertal development and the initiation of adolescent sexual activity. After puberty, more and more young people gain sexual experience, usually outside marriage.[38]

The relationship between the onset of puberty and sexual debut varies between subcultures and social groups, however. The average time between onset of puberty and first intercourse has also varied across the last two or three decades, with greater approval accorded to premarital sex in the last 20 or 30 years together with an earlier age of sexual initiation, although this trend appears to be levelling off or even reversing in the USA, the UK and Australia.[38,39,40]

A study by Smith et al. (1985)[41] illustrates the complex interaction between biology and social forces in relation to sexual initiation, and the different pattern of this interaction for boys and girls. White adolescents aged 12 to 15 years were asked about their own sexual behaviour and that of their friends. Close friends' responses could be identified through an anonymous coding system. Respondents were also asked to rate themselves on different aspects of pubertal development.

Sexuality in adolescence associated changes such as voice deepening and for girls, to oestrogen-based changes (such as breast development and menarche) and androgen-related

developments like bodily hair. Boys and girls were both asked to match their pubertal development stage to drawings depicting stages of genital development. In this way sexual behaviour could be linked to both puberty stage and peer influence. For boys, hormonally related changes and best friend's sexual behaviour were both positively associated with their level of sexual involvement. For girls, the results were more complex. They suggested that androgen levels, as measured by pubic hair stage (and reflecting level of sex drive), and oestrogen levels (representing outward signs of sexual maturity) have separate positive influences on sexual behaviour.[42]

GENDER AND ADOLESCENCE

There are many factors that influence the 'Sexual identity' of a person. It can be defined as the way the biological sexual characteristics of a person are exhibited. The factors that influence it are chromosomal patterns, external and internal genitalia, composition of hormones, and secondary sexual characteristics.[43] 'Gender identity' connotes the psychological behavioural aspects in relation to masculinity and femininity. It results from some cues that are derived as a result of different experiences from members of the family, teachers, peers, and co-workers and from cultural phenomena.[43] Physical characteristics derived from a person's biological sex such as physique, body shape, and physical dimensions interrelate with an intricate system of stimuli, including rewards and punishment and parental gender labels, to establish gender identity. Abnormalities in gender identity can result in a lot of psychiatric conditions including gender dysphoria or gender identity disorder. This may even lead to homosexual behaviour and thus this concept of identity development has huge implication in adolescents. All those things that a person says or does to open himself or herself as having the status of boy or man, girl or woman, respectively is described as "Gender Role" . A gender role is not established at birth but is built up cumulatively through experiences encountered and transacted through casual and unplanned learning, explicit instruction and inculcation. Gender role is responsible for the differential attitude and behavior of the adolescent males and females. Adolescent girls are expected to develop some shyness in social situations, whereas boys are expected to act boldly. Gender inequality begins around the adolescence.[43]

Knowledge of sexuality and detailed information regarding the same is a very blurred area in the context of Indian culture. As sex education has still not become a part of the curriculum of Indian schools, no formal education or information is available to children

and adolescents. Adolescents of India gather their knowledge from their surroundings like information provided to them by peer groups, or as it comes in print media or over the internet. The information so gathered is often uncensored and unfiltered, sometimes even presented in an improper manner or come out to be wrong information. These wrong inputs often result in formation of myths in these adolescent minds, which in turn, drag them into serious problems like untoward sexual experiences. It even may bring undue concern regarding normal sexual behaviors and thus cause significant distress to them. Adolescent, as it is known as the age for exploration, also holds true regarding sexual matters. As sexuality is a hidden area for most Indian adolescents, as it is generally taken something which cannot be discussed openly in Indian culture, various myths and misconceptions regarding them lingers in the adolescent minds. A traditional social setup provides a little scope for open discussion on sexual matters between Indian parents and their adolescent wards, resulting in no plan for effective resolution of the myth that are surrounding sexuality for adolescents. All these flaws and orthodox opinion pave way for high prevalence of a distorted notion about sexuality among Indian adolescent population.[8]

CULTURE AND ADOLESCENCE

Culture has a great impact on the matters of belief, practices and behaviors of its followers. How adolescents are raised, how they need to behave, and how openly they can discuss the matters of sexuality depend on the culture. Conservative societies forbid the discussion on the adolescent problems, and exhibit more gender inequality. Sexual taboos have their root in cultural beliefs and have important implications in the sexual health and morbidity. Many societies still hold misconceptions about menstruation, and masturbation. Elders never educate on the basic concepts of bodily changes that occur during adolescence, keeping them in dark. There has always been an issue of comfort regarding sharing of knowledge on sexuality with offspring in India. The social regulations and pattern of cultural response is quite different in our country in comparison to developed countries like the USA.[8]

Indian Culture, Adolescence and Sexuality : India is one of the oldest cultures to study sexuality and seems to be quite open in appraising sex as an art and science. The different attitudes and practices regarding sex first appeared in historic texts of various religions, which are examples of oldest literatures. Somewhere in between 1st and 6th century the classical ‘Kamasutra’ (Aphorisms of love) was written which included ‘Dharma’, ‘Ärth’ and ‘Kama’. They represented religious duty, welfare of the world and aspects of life which

are sensual.[44] Paintings on Ajanta caves, sculptures of Khajuraho are few examples of the deep interest and admiration Indians have towards sexuality. But with foreign invasion later, much of the ancient literature went missing and gradually new norms were set.

In 21st century, our society is driven with many sexual myths and taboos like Dhat Syndrome, and masturbation in females. This highlights that there is no provision for sex education either at home or in school and no specified health service addressing adolescent sexual problems exists. On top of it, in their day- to-day lives, common Indian people are very traditional and conservative in their outlook.[45] Discussing sexual matters is forbidden.

Till 6-7 years of age there is huge pampering of Indian children. which lasts at before puberty, a natural approach to sexuality and nudity prevails, especially in rural areas. So, as child grows up into adolescent, parents start expecting that he/she should behave sensibly, like an adult. Adolescent boys and girls can no more have close interactions as they did few years ago. No information is given about the natural changes that an adolescent witness in his/her body and mind.

Due to social stigma, adolescent girls are not educated about menarche beforehand. A recent study found that only one third of rural girls were told about the menstruation by their mothers and only one fourth were explained the reason. [46] Often girls feel anxious and distressed about this sudden development. In some societies, girls are not allowed to cook, not allowed to enter sacred places and even to take bath during menstruation. Due to lack of proper sanitation and privacy in rural areas, girls often miss schools and colleges during menstruation.[47] Girls are prepared to handle household responsibilities and sometimes their education stops at this stage.

The silence of the Indian culture on issues related to sexuality compound problems like the treatment seeking behaviour for neurotic and anxiety disorders (e.g. Dhat syndrome), the HIV epidemic, infections in the genital tract, sexual violence (e.g. female genital mutilation), contraceptive use and abortion services.

Masturbation can be considered as a sexual outlet and can be associated with early onset of sexual activity. A recent study based on the upper middle class adolescents of Mumbai found that they still occupied with traditional norms and believe that they should wait till they become adults before being sexually active.[48] Another study assessed the sexuality among Indian urban school adolescents. The incidence of having sexual contact was 30.08% for boys and 17.18% for girls. Around 6% boys and 1% girls reported having had

sexual intercourse.[49] Another study found that adolescent population had first encounter with sexual experience at the age of 15-24 years [50]

PARENTS – ALDOLSCENCE COMMUNICATION FOR SEXUAL BEHAVIOUR

The psychological literature assures us of the profound influence that parents have on the lives of their children. Parents are regarded as the primary socializers of their children, with influence over a variety of beliefs and behaviours. But when we turn to the domain of sexuality, we are dealing with an area of human functioning that has long been surrounded by guilt, mystery, and controversy.[19]

Most parents are not trained as educators, let alone as biologists, sex educators and psychologists. Yet many feel that it is important that at least some sex education comes from the home, and try their best to put across information, attitudes and values. Sometimes it's 'too little too late', sometimes it's 'just right' and sometimes what is 'taught' is not necessarily what is 'learnt'.[19]

Moore and Rosenthal (1991c)[51] asked sexually active 17- to 20-year olds about what they perceived their parents had communicated to them about sex. Young people on the whole thought their parents disapproved of their adolescent children engaging in sexual intercourse or sex before marriage (about 60 per cent) or having casual sex with several partners (87 per cent). Only 15 per cent of girls and 33 per cent of boys felt they could discuss with their parents any concerns they had about sex, and less than half felt that a substantial amount of their sex education had come from their parents. Very few adolescents of either sex agreed that their parents had discussed contraception with them, or assisted them in arranging for contraception. Fathers were far less likely than mothers to have engaged in any form of sex education with their children.

A study by Rosenthal and Feldman (1999),[52] Adolescents reported infrequent communication. When it did occur it was mostly by mothers, and to girls. The major topics discussed were sexual development (such as menstruation and pubertal changes) and sexual safety (contraception and safe sex). Communication about experiencing sex in relationships was even less common, but interestingly, adolescents did not consider these topics to be ones which they particularly wanted to discuss with parents. A range of other studies have

shown that despite the widespread belief that parents should be the primary sources of information on sexuality, they usually are not [53,54,55]

A study which matched parents' and adolescents' perceptions of parental contributions to the sex education of their children was conducted by Feldman and Rosenthal (2000)[56] with a sample of 209 tenth graders, 156 mothers and 91 fathers. Parents evaluated themselves more highly as sex educators than did their adolescent children, with teens rating their parents as less comfortable with sexual communication, more controlling, more likely to bring up unwanted topics and more likely to avoid important issues than the parents rated themselves. Adolescents' evaluations of their parents' communications about sex were strongly related to ratings of their parents as communicators in general, but less so to frequency of sex-related communication. Quality rather than quantity of communication was an important variable in this study.[54]

BARRIERS AND MISPERCEPTION IN PARENTS – ADOLESCENT COMMUNICATION

While many parents do an excellent job at gradually preparing adolescents for the responsibilities of adulthood and handing them the freedom to shoulder those responsibilities, the task may seem more difficult in the sexual domain. For example, parents often find initiating and sustaining discussions about sexuality with their teenagers extremely 'fraught'. They feel that they lack knowledge, are embarrassed by the topic and may have misperceptions about their adolescent's behaviour. Asked about parents' responsibility for AIDS education for their teenagers, one parent in a study by Rosenthal and Collis [57] responded: 'I like to think parents should be, but it is my experience that it is a very difficult thing for far too many parents and kids to discuss. Also, many parents prefer to believe their kids are virgins or could not accept their kids might have a homosexual experience. As for drugs!!' The possibility that there are many misperceptions and miscommunications between parents and their adolescent children about sex is difficult to ignore.

Rosenthal and Collis (1997)[57] asked parents of 16-year-old teenagers for estimates about the level of sexual activity among 16-year-olds generally, and received answers reflecting current norms. The same parents, asked their beliefs about their own teenager's sexual activities, were far more conservative in their estimates. In other words, parents found it hard to believe that their own children might have experienced intercourse even though

they recognized that similarly aged teenagers were often sexually active. Moreover, parents held more optimistic beliefs than adolescents' teachers about adolescent condom use, knowledge and parent-child communication, and stronger beliefs in parental influence. The data from this study suggests that parents may be seeing what they would like to see, rather than what is.

Katchadourian (1990)[58] believes that such misperceptions may arise from the incest taboo. Discussions about sex are a form of sexual interaction and, in the family context, these discussions are often embarrassing, even when both parents and adolescents have liberal attitudes and are comfortable about talking with peers about sexual matters. Furthermore, there may be some adaptive function in parents 'turning a blind eye' (even unconsciously) to adolescent sexual experimentation.

Experimentation is one way in today's society for young people to gain a sense of independence from parents, to begin the process of growing up and taking on adult roles. Given that economic independence for teenagers is becoming less possible, the move to 2Sexuality in adolescence independence through sexuality may have healthy elements. Of course it has its risks as well. The concerned parent needs to tread the fine line between respecting an adolescent's privacy and providing information and a values framework so that the teenager can make sensible and well-informed decisions about sexual behaviour. Another issue is that what parents perceive as meaningful discussion about sex may not impinge on adolescents.

Jaccard et al. (2002)[59] reviewed a wide range of studies concluding that about 70 per cent of parents say that they have talked with their teenagers about sex, whereas only about 50 per cent of adolescents indicate that they have had discussions about sex with their parents. Perhaps parents believe they are making an impression because they have made a big effort to broach these topics, but they have not pitched their message to their child's needs, nor checked whether the message was communicated or understood.

The range of studies reviewed here indicates that the generality of family atmosphere and the specifics of parental supervision practices have the potential to impact on adolescent sexual development. Parents, it seems, must walk a fine line in providing emotional support and healthy attitudes for the developing sexuality of their adolescent children, while also protecting them or limiting their opportunities for harmful (but not benign) sexual experimentation. Parents need also to be aware of their role as models of behaviour. Given

adolescents' finely tuned antennae for hypocrisy, they are unlikely to get away with a 'do as I say, not as I do' approach. Of course parents influence their children's sexuality through genetic inheritance as well as through their socializing techniques.

Parents provide genes that affect appearance, which influences attractiveness, which, in turn, influences opportunities for sexual encounters. Further, there is a genetic aspect to early puberty, and this is associated with earlier sexual experiences, especially for boys. These interactions between biology and socialization need to be considered in teasing out the complex ways in which parents influence their children's sexual development and behaviour.[19]

INFLUENCE OF WESTERN CULTURE, INSTITUTION & MEDIA ON SEXUAL BEHAVIOUR

The day-to-day impact of social control on teenagers is reflected in their commitment to perform in ways appropriate to their role. Western societies, by prolonging the transition to adulthood and by segregating their youth, have given rise to an institutionalized youth culture—more or less standardized ways of thinking, feeling and acting that are characteristic of a large number of young people. The power of the youth culture in shaping teenagers' opinions and behaviours can be recognized when we look around at the conformity of youths to current fashions in clothes, music and leisure activities. The area of sexuality is just as subject to this influence as any other. Adolescents derive much of their information about sexual mores and behaviours from this subculture, which is wider than immediate peers, and which purveys sets of beliefs about what adolescents should be doing, from the point of view of their age-mates. These beliefs are communicated via various media directly targeted at young people. Influences include publications for teenagers, movies and television designed to appeal to this age group, music, songs, rock videos, the internet and various internet games.[19]

Among the print media, magazines (for example; Dolly or Girlfriend) and romantic fiction (such as Mills and Boon romances) are popular among adolescent girls, with boys less directed and more varied in their reading.[60] Writers such as McRobbie (1982)[61] believe that adolescent fiction contributes to the creation of ideologies about relationships between the sexes, sexual expression and power. For girls, she argues, these ideologies deal with the construction of teenage femininity, such as the nature of looking good or smart, the desirability of feminine passive acceptance and the importance of alluring a man. Teenage

boys' interests in a varied diet of adventure, hobbies, nonfiction and soft porn such as Playboy may encourage a wider range of self-definitions and identities which do not necessarily revolve around sexual attractiveness.

Teenagers are also presented with role models in the form of current pop stars. Videoclips of pop singers or groups have become popular as a means of promoting Sexuality in adolescence 86 careers by persuading teenagers to buy records of their favourites. At the same time, these videoclips frequently give powerful messages about sexuality, not only in terms of their lyrics but also of their behaviour. Popular music and dancing has been likened to a mating ritual, in which rhythm and simulated sexual movements provide sexual release and indicate attraction.[62]

In our highly sexualized society, many of the values and norms of the youth culture concern sexual behaviour. Consequently this subculture probably has more influence on young people's sexual activity than it does on, say, their career choices. There have been suggestions that the pressures inherent in the adolescent subculture may sometimes thrust young people into sexual involvement before they are physically and emotionally ready to deal with it, almost bullying them into premature sexual activity.[62]

Adolescents spend nearly eight hours per day interacting with the media—mostly television, movies, videos and the internet.[62] They rank media sources high on their list of informants about sexual behaviour.[63]

There is an even darker side to what is available in the modern media. Access to pornography, either by choice or accident, is alarmingly easy. Flood and Hamilton (2003a, 2003b)[64,65] recently examined young people's exposure to pornography through an Australia-wide telephone survey of 16- and 17-year-olds. The findings were disturbing. Their data showed that 84 per cent of 16- to 17-year-olds agreed that watching X-rated videos is widespread among boys of their age. Many fewer (4 per cent of girls and 15 per cent of boys) thought this was true of girls. This belief about boys suggests that watching these videos is considered to be normal, or at least common behaviour—it may give pornography consumption a high degree of social tolerance and acceptability within youth culture.

Ward's review of entertainment media concluded that frequent exposure to sexually oriented genres such as soap operas and music videos was associated with more casual, sexist and stereotyped attitudes about sex and sexual relationships; that media exposure of

this sort shapes viewers' sense of sexual reality (such as the prevalence of sex and certain sexual behaviours); and that there is some, although weaker, evidence that media exposure impacts on sexual behaviours. Ward concludes that the media have assumed a prominent role in the sexual socialization of our youth.[66]

AWARENESS ON SEXUALLY TRANSMITTED DISEASE

In 2002, UNICEF and UNAIDS estimated 11.8 million young people between the ages of 15 and 24, worldwide, were living with HIV/AIDS (UNICEF 2002). They accounted for more than 50 per cent of new HIV infections, with nearly 6000 young people in this age group becoming infected every day. Young women accounted for two-thirds of those infected (7.3 million) but this pattern of greater risk for young women was not consistent worldwide.[19]

Most of the focus of sexual health promotion messages has been on disease prevention, and especially prevention of HIV/AIDS—not unreasonably given the appalling swathe that the pandemic has cut through young people worldwide. The impact of other STIs on young people's health has been ignored until relatively recently. These infections have been recognized from ancient times and there has long been a moral agenda added to concerns about the public health implications of STIs.[67] This has been mirrored in the early approach to HIV when sex workers were singled out as 'vectors' of infection. The public condemnation of STIs as dirty and shameful—beliefs that persisted even among young people at the end of the 20th century—meant that treatment was often delayed or deferred, exacerbating the problem.[68]

(Moore et al. 1996)[67] outlined the scope of the problem, noting the increasing incidence of some STIs and their potential dangers to young people's health. Little has changed a decade later in spite of the development of many education programmes designed to encourage 'safe sex' behaviours that reduce or eliminate infection. In fact, there has been a disturbing increase in the rates of some STIs, especially among young people. Although the actual incidence of STIs in the community is difficult to ascertain accurately, the surveillance data that exist make it clear that STIs, in western society, are predominantly diseases of adolescents and young adults

Chlamydia can have serious potential long-term health consequences, especially for young women—who are much more likely than young men to be infected. The most common complication of chlamydia for young women is the spread of the infection to the upper genital tract leading to pelvic inflammatory disease (PID), the major cause of tubal damage resulting in ectopic pregnancy and infertility[69].

Gonorrhoea causes a discharge from the vagina, penis, or rectum. It also causes painful or difficult urination or bowel movements. The most common and serious complications happen in women. These include pelvic inflammatory disease, ectopic pregnancy, and trouble having children (infertility). Gonorrhea infections can be treated with antibiotics.

Syphilis. The first symptom of syphilis is a painless open sore. It is often seen on the penis, in the vagina, or around either sexual organ. Untreated syphilis may go on to more advanced stages. This includes a short-term rash. Over time, the heart and central nervous system may be seriously affected. Syphilis infections can be treated with antibiotic therapy.

Other common STIs include genital herpes simplex and genital warts (human papilloma virus—HPV). Genital herpes is being diagnosed with increasing frequency and has been reported since the 1970s as affecting as much as 15 per cent of the population. [70]In young women, genital herpes is a significant problem because, like chlamydia, it may be asymptomatic and there is a strong likelihood that the infection will be transmitted from mother to infant if the infection is in an active phase during birth. A similar possibility exists for HPV, another STI whose incidence is increasing. Of particular concern is the association now known to exist between HPV infection and the development of carcinoma of the cervix. The development of a vaccine for HPV (Garland 2002) is one beacon of light in the battle to reduce the burden of STIs.

Apart from the health consequences of specific STIs, there is now considerable evidence that infection with an STI makes individuals more vulnerable to HIV infection. Unfortunately, there is still no vaccine available for HIV, although the existence of highly active retroviral drugs appears to have turned this inevitably fatal virus into one which Sexually transmitted infections 135 can be controlled over a long period of time for those able to access and afford this expensive drug therapy and maintain the complex treatment

regimen. So HIV infection remains the most destructive STI threatening the lives of millions of young people. In the next sections of this chapter, we focus on HIV/AIDS,

bearing in mind that the factors which make young people vulnerable to HIV infection may also make them vulnerable to other STIs.[19]

INFLUENCE OF SEX EDUCATION ON SEXUAL BEHAVIOUR

Literature abounds in terms that are roughly equivalent to sex education-'Family Life Education', 'Lifestyle Education', 'Adolescent Education', 'Family Planning Education', and so on. Apart from reflecting societal needs to use euphemisms while talking about sexual activity, they also represent differences in the scope and curriculum of sex education .[71] Knowledge about sex is conveyed either informally or formally by peers, by parents or other adult caregivers, by teachers, or by health professionals; and the expected outcome of this education naturally varies with this context.[71-74] Here, we shall restrict ourselves to the aspects that are related directly to the WHO's definition of sexuality: "Sexuality is a significant aspect of being human throughout life and envelopes sex, gender identities and roles, sexual orientation, eroticism, pleasure, intimacy and reproduction. It is experienced and expressed in thought, fantasies, desire, beliefs, attitudes, values, behaviours, practices, roles and relationships [75]."

The importance of sex education cannot be over-emphasized. First and foremost, sexuality in all its dimensions comprises an important aspect of human behavior, and being able to regulate one's own sexual urges and behavior is part of living a healthy life. As is the case with other complex behavior, there is an intricate interplay of sociological, psychological and physiological factors that are involved, and need to be accounted for in discussions of sexuality. At the same time, misconceptions about sexuality are highly prevalent, as demonstrated by surveys.[76,77] The rates of unplanned and early pregnancies remain high [78], and are associated with high rates of morbidity and mortality. Adolescence is a particularly risky period, with studies showing that women are at the highest risk for intimate partner violence and sexual violence between the ages of 15 and 17 .[79] A considerable proportion of the AIDS burden in India lies amongst the adolescent population. Studies conducted by the Department of Child Welfare have come up with a disturbing finding that a majority of children have experienced some form of sexual abuse . [80] Sex education remains an important component of the efforts to tackle all these health-related problems, and is therefore, a priority for educators and health professionals. While doing so, educators must be aware of certain issues.

A) The social construction of gender, and the prevalence of gender stereotypes: That might be unintentionally reinforced by the educator (that women do not initiate sex or explore sexual relationships; that women must dress modestly to avoid sexual assault; that sexual victimization affects only women; and other issues related to consent for sexual activity).

B) A life course perspective: The information that needs to be conveyed depends on the age and gender of the recipients. Some advocates for sex education have argued that sex education is best initiated at an early age, in order to cover all aspects including identification and protection against childhood sexual abuse. This has shaped the sex education curriculum in a number of countries. [81] Others have suggested that discussions on sexuality are best restricted to those who are married, as being more representative of sexual expression in Indian culture[82] Another school suggests that no general discussions of sexuality should take place.

C) The cultural context: Surveys have demonstrated that sexual activity quite commonly occurs outside the marital context and in adolescence, both in urban and rural India, and this information must be considered in shaping institutional stances. A recent meta-analysis concluded that sex education aiming at abstinence performed poorly when compared to comprehensive sex education on a number of parameters, including knowledge of sexually transmitted infections, and age at initiation of sexual contact

D) The social realities of the subject: Examples from the west may not be appropriate while discussing the relationship between sexual experimentation and parties, drinking or dating, which are often used in manuals of sex education when they are transposed directly from the western context. Differentiated opinions on sexual activity, ranging from strong support for abstinence and a heterosexual orientation, to more liberal views, the entire gamut of sexual experiences may be discussed during the sex education course.

Education enabling young people to develop sexual and relationship knowledge and skills is likely to be most effective if educators take into account the current beliefs and practices of their target audience. Sex education which stresses fear-arousing messages, punitive outcomes of experimentation or value stances considered ‘out of date’ will fail to reach those most needing intervention. Educators need to know about the different sexual subcultures of youth if their programmes are to be effective. But education about sexuality does not just occur in schools. It is pervasive in our culture through modelling adult

behaviour, through the media, through talking with each other and family and through our laws as well as religious and other values.[8]

Sex education can range from direct teaching about biological 'plumbing' through to decision-making and value-oriented approaches. The desired outcomes can be an increase in straightforward knowledge about bodily functions, or in sexually responsible behaviour. Or they can combine these and other attitudes to sexuality in a context which provides the adolescent with a script for dealing with sexual relationships. An example of Sexuality in adolescence 94 the latter comes from the Scottish Health Education Group's (1990) proposal for health and sexuality education in schools, Promoting Good Health. In this model, the topic of sexuality is combined with consideration of relationships, while encouraging an exploratory and discussion-based approach to sexual values and the facilitation of decision-making skills in the sexual domain.

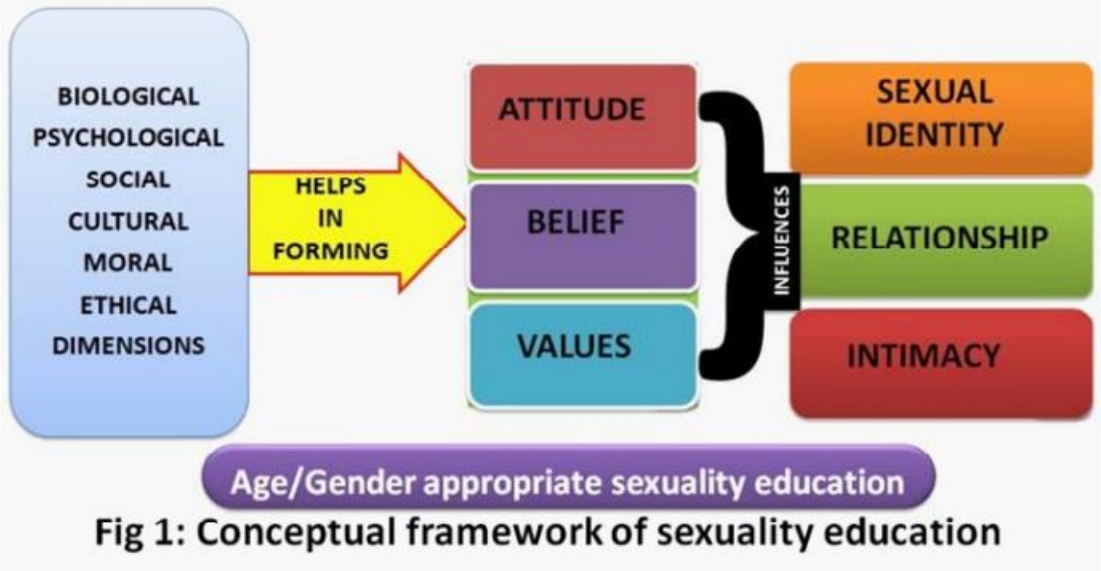

Fig 1: Conceptual framework of sexuality education

Sexuality education programs can be highly strategized to help improve sexual and reproductive health of society as well as effectively reduce sexual diseases/dysfunctions, sexual abuse, gender based violence and prevent the spread of sexually transmitted infections. If implemented properly, it helps improve responsible decision making and often delays the age of first sexual experiment. Flexible and innovative strategies are needed for a country like India to fulfil its needs for sexual education. Gradual but consistent efforts can really improve the level of sexual literacy in India.[8]

Clark et al (2019)[83]: Studied more normative, developmental perspective by examining genetic and environmental influences on five sexual behaviors ranging from dating to

pregnancy in middle (Mage = 14.90 years) and late adolescence (Mage = 17.85 years) in a sample of twins (N = 3,762). Result showed that overall, behaviors was more common. Socially sanctioned (e.g., dating) were more heritable. The behaviors was less common and socially acceptable (e.g., sexual intercourse). The cause of different sexual behaviors is tied to their normativeness. This concludes the importance of considering the broader developmental context when studying sexual development.

Miranda et al (2018)[84]: Did an analytical descriptive study using a questionnaire about sexual behaviors, adapted from the World Health Organization. It was distributed to students from a Portuguese city aged 14-24 years, during two months. Two age groups were defined: G1 – students aged 14-19 years; G2 – aged 20-24 years. The result showed that the mean age of first sexual intercourse was 16.4±1.8 years; 93% used some contraceptive method in the first sexual intercourse. Out of those who did not use contraception in the first sexual intercourse, 83% were in G1 ($p<0.001$). Emergency contraception was used at least once by 54% (63% in G2, $p<0.001$). Among those who had unprotected sexual intercourses, 9% were under the influence of alcohol, 53.6% were female and 53.4% were in G2 ($p<0.001$). Homosexual contacts occurred in 21% of cases; in that, 62% in G1 and 84% among females ($p<0.001$)

Randhir Kumar et al (2017)[85]: Studied the knowledge of reproductive and sexual health among school going children. A total of 743 adolescents from 13-19 yrs of age were studied, using self-designed questionnaire. Results showed, 15.958±1.61 years mean age of subject, majority of adolescents i.e., 93.5% favour sex education. Preference of getting sex education, 91.5% from doctors followed by 83.0% school/teacher and 37.3% parents

Baams et al (2015)[86]: Did meta-analysis studies on the relations of pubertal timing and status with sexual behavior and sexual risk behavior among 10.5-22.4 years of age. A strong links between pubertal status, timing, and sexual behavior and sexual risk behavior was seen.. A significant variation in results among studies that was not fully explained by differences in biological sex, age, and ethnicity.

Sarah R. Moore et al (2014)[87]: Studied the associations among menarche and perceived pubertal timing, age of first sexual intercourse (AFI), adolescent dating and sexual behavior using a behavioral genetic approach. The results suggest that a girl's interpretation of her pubertal timing beyond objective timing is important to consider for the timing and the contexts of romantic and reproductive behavior.

Benzaken et al (2011)[88]: Did a cross-sectional study in junior colleges in Mumbai in 2010. The self-designed questionnaire investigated male and female students' (aged 15-17) exposure and opinions towards sex education. Results showed 90% of students believed it important to have sex education as part of school curriculum; over 60% reported prior exposure to sex education in school. However, only 45% were satisfied they had good access to advice about contraception and sexual health, particularly, females reported more limited access.

Melanie J. Zimmer-Gembeck et al (2008)[89]: Did a prospective study on 176 young people (47% female) followed from birth to age 26 years. Sexual partnering was measured by accumulating number of different sexual intercourse partners at ages 16, 19, 23, and 26 years. At ages 13–16 Physical appearance of maturity, alcohol use, and dating was measured via observations, interviews, and questionnaires. Result showed a mature appearance at age 13 years, use of alcohol more than monthly at age 16, and a history of a steady romantic partner before age 16 were each associated with a greater number of sexual intercourse partners by age 16. A steeper accumulation of sexual partners between ages 16 and 26. had more mature appearance, more frequent alcohol use, and greater dating involvement. Males made sexual partners more rapidly from the ages of 16–26 years when compared with females.

Benjamin C. Campbell et al (2005)[90]: Explored the relative timing of pubertal events and their relationship to the onset of sexual behavior, Zimbabwe school boys aged 12–18 years. Behavioral measurement, age of first sexual fantasies, non-coital sexual behavior, and coitus. Result showed median age of first erection at 10.75 ± 0.11 years, first sexual fantasy at 12.66 ± 0.03 years, first spontaneous nocturnal emission at 13.02 ± 0.03 years, and adult levels of blood testosterone at 17.2 ± 0.7 years. Spontaneous nocturnal emission was significantly related to all sexual behavior. Variation in testosterone plays a role in the onset of sexual behavior among boys, beyond its relationship to developmental timing. The behavioral mechanisms represented significant effects of testosterone.

Carolyn Tucker Halpern et al (1998)[91]: Studied the relationship between T and sexual activity using more frequently collected measures of salivary T and behavior. Saliva samples and weekly behavior checklists were collected over a 2-year period from the same panel sample of males on which semiannual analyses were based. Saliva samples representing measures approximately every fourth week of study participation were selected for T assay. The association between these monthly salivary T measures and weekly reports of incidents of sexual activity was assessed with repeated measures analyses. Higher levels of salivary T were

significantly associated with an increasing hazard of coital initiation, and with more frequent coital and noncoital activity.

Edward A. Smith et al (1985)[92] : Analysed data from Caucasian teenagers in the United States.The levels of pubertal development and best friend's sexual involvement for both males and females is related to increased sexual motivation during adolescence Pubertal development effects seen from two perspectives: effects which are socially motivated and effects which are attributed to biological motivation (libido). The bio psychological social model indicated pubertal development and friend's behavior provides a different and clearer picture of the process rather than examination of its effects separately.

Dornbusch, Sanford M et al (1981)[93]: Studied the Data from the U.S. National Health Examination Survey of 12- 17-year-old youths to determine whether the development of the social behavior of dating is more closely linked to the level of sexual maturation or to the progression through age grades without reference to sexual maturation. Regression analyses and partial correlations show that individual levels of sexual maturation add very little to the explained variance in dating after age has been taken into account. It appears that social pressures, based on behavior considered typical and appropriate at various ages, determines the onset of dating in adolescents. Individual rates of sexual maturation that deviate from the norm for that age have little impact on dating. The findings show how social standards can reduce dramatically the impact of individual biological processes on institutionalized forms of behavior.

AIMS AND OBJECTIVES

AIM:

- To Assess Sexuality and Sexual Concern among Adolescence.

OBJECTIVES:

- To better understand the diverse aspects of sexuality in adolescents in order to provide a foundation for better understanding of healthy adolescent sexuality development.
- To Support healthy sexual experience while minimizing the adverse consequences of sexual trauma, unplanned pregnancy, and sexually transmitted infections among adolescents.
- To identity existing knowledge and to impart knowledge to adolescents on sex education through structured teaching programme which will help to develop a positive attitude towards sexuality.

MATERIAL & METHODS

STUDY DESIGN: Observational Cross- sectional study.

PLACE OF STUDY: Department of Pediatrics, Santosh Medical College Hospital, Ghaziabad, Uttar Pradesh, India.

STUDY POPULATION: School going Adolescents from 15-18yrs age group

DURATION OF STUDY: One year study from July 2021 to July 2022

SAMPLE SIZE: Sample size was calculated based using the formula

$$n = Z^2P(1-P)/d^2$$

Z= level of confidence (1.96 at 5%level of significance)
P= prevalence of knowledge of sex education
d= precision (10%of P)
Sample Size is :
N= sample size (331)

Approval will be obtained from the ethical committee of Santosh University.

Informed consent from the parents & students was taken from all subjects and will remain undisclosed

INCLUSION CRITERION:

To allow accurate assessment:

1) Adolescents (nominal age range 14-17 years)
2) Physiological development, including developmental influencers (e.g. biochemical influences, hormonal activity, enzyme activity, neurotransmitters etc.), with related outcomes and
3) Sexual health behaviour, including lifestyle or behavioural factors/outcomes, and decision-making

EXCLUSION CRITERIA :

1) Children (e.g. under 14years) /or Adults (e.g. >17 years of age)
2) Atypical or pathological physical /psychological/ physiological developmental focus (e.g. eating disorders, addictions, gambling, or major mental health disorders), and their treatment interventions
3) Adolescent pregnancy
4) Will Not give consent
5) Will not complete questioners

METHODOLOGY:

School based cross-sectional study was conducted among school going adolescents in a urban area of district Ghaziabad, Uttar Pradesh for a period of one year.

A self-designed, semi structured, self-report pretested questionnaire was used to screen students regarding knowledge and attitude about sex education.

The questionnaires were divided into various groups.

Section I : Demographic profile of the adolescence. It consist of selected demographic variables like age, sex, class, type of family and socio-economic status

Section II : Questionnaire regarding pubescence

Section III: Questionnaire regarding sexual experience

Section IV : Questionnaire regarding attitude, knowledge with regard sexual health including HIV and Other sexual transmitted disease.

Data collection was started from July 2021 to July 2022. And had established good relationship with the adolescent students who had participated in the study at senior secondary school, Ghaziabad, UP. Individual informed consent from the student of 10^{th}, 11^{th} and 12^{th} class was taken. The Identity of student kept confidential. The information pertaining to demographic

data was collected. A structured teaching programme was used to obtain knowledge regarding Sex education. Data was collected in a conference hall by making the students to get together and sit comfortably on the chair and the the responses was recorded as given by the students .

STATISTICAL ANALYSIS :

Data was collected and observed from 300 adolescent student who are Studying Senior secondary school, Ghaziabad UP The collected data was summarized and tabulated by utilizing descriptive statistics which includes mean, percentage, standard deviation and inferential statistics includes ,paired ‘t’ test and chi-square test etc.

RESULT AND OBSEVATION

TABLE 1: RESPONDENT'S SOCIODEMOGRAPHIC PROFILE

Demographic Characteristic		Frequency	PERCENTAGE (%)
Gender	Male	173	57.9
	Female	126	42.1
AGE	15 Yrs	73	24.4
	16 Yrs	76	25.4
	17 Yrs	76	25.4
	18 Yrs	74	24.7
CLASS	10th	73	24.4
	11th	76	25.4
	12th	150	50.2
TYPE OF FAMILY	NUCLEAR	119	39.8
	JOINT	180	60.2
SOCIOEC.	UPPER MIDDLE	173	57.9
	UPPER CLASS	126	42.1

TABLE 1: Shows Sociodemographic Characteristic of Respondent. Out Of 300 Respondent 57.8 % (N=173) Were Male; 42.1 (N=126) were Female. Maximum Proportion of Participation was from 16 And 17yr Age Group i.e., 25.4% respectively. 24.4% were from 15yr Age Group and 24.7 % From 18yrs. More number of students were studying in class 12^{th} i.e., 50.2%. More Than Half Respondent i.e., 60.2% Belong to Joint Family And 39.2% From Nuclear Family With 57.9% From Upper Middle SES And 42.1 % From Upper Class SES

TABLE 2: Respondent's Knowledge Regarding Transmission Of HIV/AIDS N=300

Variables	Frequency	Percentage (%)
Sexual contact	287	97
Blood and blood product	15	5
Sharing of used needle and syringe	9	3
Sharing of food	9	3
Hugging	10	3.3

TABLE 2: States the knowledge regarding HIV/ AIDS. 100% respondents heard about the HIV/AIDS. Regarding transmission of HIV/AIDS, majority (97.0%) answered sexual contact, 5% answered blood and blood product, 3% stated sharing of used needle and syringe. Some respondents had misconceptions regarding transmission of HIV/AIDS. They stated that HIV/AIDS is transmitted through hugging (3.3%) and sharing of food eaten by infected person (3%).

TABLE 3: Respondent's Knowledge Regarding Protection from HIV/AIDS

Variable	Frequency	Percentage (%)
Using codom during sexual intercourse	193	64.5
Use of sterilized needle	278	93
Not giving birth by HIV+mother	299	100

TABLE 3: States the knowledge regarding protection from HIV/AIDS, majority (64.5%) of respondents responded that use of condom during sexual intercourse will protect from HIV/AIDS, 100% answered not giving birth by HIV infected mother and 93% stated using sterilized syringe.

TABLE 4: Respondent's Knowledge regarding STI n=300

Variable	Frequency	Percentage (%)
Knowledge regarding meaning of STI's		
Through sexual intercourse	299	100
Through mosquito bite	24	8
Knowledge regarding types of STI's		
HIV/AIDS	299	100
SYPHILIS	276	96
Gonorrhoea	231	77.3

TABLE 4: Illustrates knowledge regarding sexually transmitted infections. Out of 300 respondents, majority had heard about sexually transmitted infection. Among them, although, most of them 100% answered correctly the meaning of STIs that is disease transmitted through sexual contact, but 8% had misconception about STIs that is disease transmitted through mosquito bite. 100%Respondents had knowledge of HIV/AIDS as STIs, followed by syphilis 96% and gonorrhea 77.3%

TABLE 5: Respondent's Knowledge regarding SEXUAL HEALTH REPRODUCTION n=300

Knowledge regarding SHR	FREQUENCY	PERCENTAGE (%)
Secondary sexual character of male	126	42.1
Secondary sexual character of Female	173	57.9
Pregnancy occur	226	75.6
Legal age for marriage	299	100
Use of codom/pills for family planning	291	97.3

TABLE 5: Shows knowledge of Respondent regarding Sexual Health Reproduction . ALL the respondents, i.e. 100% knew the legal age of marriage. Among them, more than half, 57.9 % Respondents had knowledge female secondary sexual character and 42.1% respondents had knowledge of male secondary sexual character.75. 6% had knowledge regarding pregnancy after sexual intercourse. Regarding temporary family planning devices, majority (97.3%) replied condom & oral pills

Table 6: Respondent's Response regarding Sexual Attitude And Practices n=300

Variables	PERCENTAGE (%)
Masturbated during last week	59.2
Stimulus behind masturbation	
• Looking pornography	71.9
• Aroused by Romantic Idea	73.2
• With sexual contact	57.5
Feeling after Masturbation	
• Felt satisfied	71.9
• Have sense of guilt	92.6
• Would harm body &soul	95.0
IS MASTURBATION HEALTHY	38
Attending late night party is likely to increase indulgence in sex	54.8
Consumption of alcohol is likely to increase indulgence in sex	79.9

TABLE6: Shows 59.2% masturbated during last week. 73.2%Adolescent used romantic ideas, 71.9 % used pornographic material and 57.5% used sexual contact as their stimuli for masturbation. 95.0% adolescent believed masturbation will harm the body while 92.6% had sense of guilt and 71.9% felt satisfied after masturbation. 38% are worried about excessive masturbation.54.8% accept the concept that attending late night party is likely to increase indulgence in sex.79.9% consider Consumption of alcohol is likely to increase indulgence in sex.

Table 7: Variables of adolescents' knowledge and sexual behavior related to whom they talk about sex with and what sources of information they seek about HIV /AIDS OTHER STDs.

SOURCE OF INFORMATION	FREQUENCY	PERCENTAGE (%)
E-MEDIA	144	48.2
MASS MEDIA	18	6.0
PARENTS	31	10.4
PEER GROUP	76	25.4
School/teacher	30	10.0

TABLE 7: Shows Respondents seek higher proportion of information from E-Media (48.2%), followed by peer group (25.4%) and least from Mass Media (6.0%) Respondent are less open and gained less knowledge from parents (10.4%) and teacher/school (10.0%)

TABLE 8: Comparison of gender with sociodemographic profile

		Gender		Total	Pearson Chi-Square	p-value
		BOYS	GIRLS			
AGE	15	44	29	73	6.664	0.088
	16	40	36	76		
	17	38	38	76		
	18	51	23	74		
CLASS	10.00	44	29	73	1.16	0.5599
	11.00	40	36	76		
	12.00	89	61	150		
TYPE OF FAMILY	NUCLEAR	59	60	119	5.558	0.0184
	JOINT	114	66	180		
SOCIOEC. STATUS	UPPER MIDDLE	108	65	173	3.514	0.0609
	UPPER CLASS	65	61	126		

TABLE 8: Shows Sociodemographic Characteristic of Respondent. Out Of 300 Respondent , there was predominance of male with 57.8 % (N=173) in comparison of female i.e. 42.1 (N=126). Maximum participation of boys was from 12th class in comparison of girls (N=89 vs N=61; P=0.559). Maximum number of girl (n=66) were from joint family and belong to upper middle SES (n=65). Similarly maximum number of boys (n=114) were from joint family and belong upper middle SES (N=108). In all domain Statistical significant was found between gender in regard to type of family (p=0.0184)

TABLE 9: ASSOCIATION OF GENDER WITH KNOWLEDGE REGARDING TRANSMISSION OF DISEASE

		Gender		Total	Pearson Chi-Square	p-value
		Male	Female			
SEXUAL CONTACT	YES	169	118	287	3.084	0.0791
	No	4	8	12		
BLOOD AND BLOOD PRODUCT	YES	170	120	290	2.289	0.1303
	No	3	6	9		
Sharing of used needle and syringe	YES	10	5	15	0.502	0.001
	No	163	121	284		
HUGGING TOGETHER	YES	2	8	10	6.082	0.0137
	No	171	118	289		
SHARING EATING TOGETHER	YES	8	1	9	3.664	0.0556
	No	165	125	290		

TABLE 9: Knowledge. regarding transmission of HIV/AIDS, Higher proportion of boys & girls correctly answered (n=170 vs n=120, p=0.13) transmission through blood and blood product. About (n=169) boys &(n=118) girls answered it can through sexual contact. The difference between two sexes was not statistically significant (p=0.0791). Significant number of boys (n=10) & (n=5) girls were not aware of transmission of HIV/AIDS can be through sharing of used needle and syringe(p=0.001). Some boys& girls had misconception of transmission through sharing food and hugging. In all domains difference between two sexes was not statistically significant.

TABLE 10: ASSOCIATION OF GENDER WITH KNOWLEDGE REGARDING PROTECTION OF HIV

		Gender		Total	Pearson Chi-Square	p-value
		Male	Female			
CONDOM GOOD FOR SRH	YES	172	119	291	6.936	0.0084
	No	1	7	8		
USE OF STERILISED NEEDLE	YES	165	113	278	3.619	0.0571
	No	8	13	21		
NO BIRTH BY HIV +MOTHER	YES	173	126	299	NA	NA

Table 10: Knowledge regarding protection from HIV/AIDS. Majority of Adolscent (Boys VS Girls)knew more than single protective measure From HIV/AIDS , HIV +Mother should not give birth (n=173 vs N=126) followed by use of codom (N=172 vs N=119)and use of stertilised needle (N=165 VS N=113)
The use of condoms as protective measure and this difference between two sexes was found to be statistically significant (p=0.0084)

Table 11: Association Of Gender With Knowledge Regarding Sti's

		Gender		Total	Pearson Chi-Square	P-Value
		Male	Female			
Knowledge Regarding Meaning Of STI's						
STI Thru Sexual Contact	Yes	173	126	299	Na	Na
STI Thru Mosquito Bite	Yes	11	13	24	1.548	0.2135
	No	162	113	275		
Knowledge Regarding Types Of STI's						
HIV/AIDS A STI	Yes	173	126	299	Na	Na
Syphilis	Yes	169	107	276	16.736	<0.001
	No	4	19	23		
Gonorrohea	Yes	141	90	231	4.211	0.0402
	No	32	36	68		

TABLE 11: Illustrates knowledge regarding sexually transmitted infections. Highly significant number of boys knew about meaning of sexually transmitted infection and its type in comparison of girls.
Majority of boys, answered correctly the meaning of STIs that is disease transmitted through sexual contact in comparison of girls (n=173 vs n= 126), Higher proportion of girls had misconception about STIs that is disease transmitted through mosquito bite in comparison of boys (n=13 VS n=11; p=0.2135). Highly significant number of boys had knowledge of HIV/AIDS as STIs (n=173), followed by syphilis (n=169) and gonorrhea (n=141) in comparison .This difference between two sexes was found to be statistically significant (P<0.001)

Table 12: Variables of adolescents' knowledge and sexual behavior related to whom they talk about sex with and what sources of information they seek about HIV /AIDS OTHER STDs.

VARIABLES OF SOURCE OF INFORMATION	BOYS	GIRLS	TOTAL	Pearson Chi-Square	P-Value
E-MEDIA	98	38	136	21.183	0.0003
MASS MEDIA	14	4	18		
PARENTS	12	19	31		
PEER GROUP	38	46	84		
School/teacher	11	19	30		

TABLE 12: Shows boys s seek higher proportion of information from E-Media (n=98), followed by peer group (n=38) and least from Mass Media (n=14) in comparison of girls which seek higher proportion of information from peer group (n=46), followed by E-media (n=38) and least from Mass Media (n=4) Boys are less open and gained less knowledge from parents and teacher/school in comparison of girls (n=23 VS n=38) .
This difference between two sexes was found to be statistically significant (P=0.0003)

Table 13: ASSOCIATION OF GENDER WITH RESPONSE REGARDING SEXUAL ATTITUTUDE AND PRACTICES N=300

		Gender		Total	Pearson Chi-Square	p-value
		Male	Female			
Masturbated during last week	YES	96	81	177	2.334	0.1265
	No	77	45	122		
Stimulus behind masturbation						
Looking pornography	YES	134	89	223	1.79	0.1810
	NO	39	37	76		
Aroused by Romantic Idea	YES	145	102	247	6.603	0.0102
	No	28	24	52		
With sexual contact	YES	117	103	220	0.221	0.6386
	No	56	23	79		
FEELING AFTER MASTURBATION						
FELT SATISFIED	YES	122	93	215	0.39	0.5321
	No	51	33	84		
Have sense of guilt	YES	126	151	277	17.296	<0.001
	NO	0	22	22		
Would harm body &soul	YES	170	114	284	9.284	0.0023
	NO	3	12	15		
IS MASTURBATION HEALTHY	YES	21	17	38	0.12	0.7286
	NO	152	109	261		
Attending late night party is likely to increase indulgence in sex	YES	65	99	164	0.936	0.3334
	NO	61	74	135		
Consumption of alcohol is likely to increase indulgence in sex	YES	142	97	239	1.181	0.2772
	NO	31	29	60		

TABLE 13: Practice of masturbation was more common in boys than in girls with no statistical difference (n=96 VS n=81, p=0.1265). Among boys (n=145) used romantic ideas in comparison of girls which used sexual contact(n=103), a stimulus behind masturbation. The difference between two sexes was not statistically significant. Significant number of Boys (n=122) felt satisfied after masturbation in comparison of girls (n=151) which felt a sense of guilt after masturbation. This difference between two sexes was found to be statistically significant (P<0.001). Higher proportion of boys (n=152) felt worried about excessive masturbation.

Higher proportion of girls in comparison of boys (n=99 VS n=65) accepts attending late night party is likely to increase indulgence in sex. Similarly, majority of boys in comparison of girls (n=142 vs n=97) believed consumption of alcohol is likely to increase indulgence in sex

TABLE 14 : Comparison Of Age Group With Knowledge Regarding Transmission Of Disease

		AGE GROUP		Total	Pearson Chi-Square	p-value
		15-16	17-18			
Sexual contact	YES	139	148	287	5.612	0.018
	No	10	2	12		
Blood and blood product	YES	141	149	290	5.662	0.017
	No	8	1	9		
Sharing of used needle and syringe	YES	2	13	15	8.570	0.003
	No	148	136	284		
Sharing of food	YES	10	0	10	10.415	0.001
	No	139	150	289		
Hugging	YES	9	0	9	2.899	0.001
	No	140	150	290		

TABLE 14: Knowledge. regarding transmission of HIV/AIDS among younger and older age group , Higher proportion of older age group correctly answered (n=149 vs n=141, p=0.017) transmission through blood and blood product, About (n=148) older group &(n=139) younger age answered it can through sexual contact. The difference between two sexes was not statistically significant (p=0.018). Significant number of younger group (n=148) & (n=136) older age group were not aware of transmission of HIV/AIDS can be through sharing of used needle and syringe(p=0.001).
Some younger age group had misconception of transmission through sharing food and hugging in comparison of older age group. This difference between two groups was found to be statistically significant (P=0.0001)

TABLE 15: ASSOCIATION OF AGE GROUP WITH KNOWLEDGE REGARDING PROTECTION OF HIV

VARIABLES		AGE GROUP		Total	Pearson Chi-Square	p-value
		15-16	17-18			
CONDOM GOOD FOR SRH	YES	142	149	291	4.665	0.031
	No	7	1	8		
USE OF STERILISED NEEDLE	YES	128	150	278	22.738	<0.001
	No	21	0	21		
NO BIRTH BY HIV +MOTHER	YES	149	150	299	NA	NA

Table 15: Knowledge regarding protection from HIV/AIDS. Majority of Adolscent (Older age group VS younger age group) knew more than single protective measure From HIV/AIDS, HIV +Mother should not give birth (n=150 vs n=149) followed by use of codom (n=149 vs n=142) and use of sterilised needle (n=150 VS n=128). Awareness regarding use of sterilized needle as protective measure was less among younger age group and this difference between two group was found to be statistically significant (p<0.001)

Table 16: Association Of AGE GROUP With Knowledge Regarding Sti's

		Age group		Total	Pearson Chi-Square	P-Value
		15-16	17-18			
Knowledge Regarding Meaning Of STI's						
STI Thru Sexual Contact	Yes	149	150	299	Na	Na
STI Thru Mosquito Bite	Yes	24	0	24	1.548	0.2135
	No	125	150	275		
Knowledge Regarding Types Of STI's						
HIV/AIDS A STI	Yes	149	150	299	Na	Na
Syphilis	Yes	23	150	173	16.736	<0.001
	No	146	0	146		
Gonorrohea	Yes	3	85	88	4.211	0.0402
	No	146	65	211		

TABLE 16: Illustrates knowledge regarding sexually transmitted infections.100% respondents knew about meaning of sexually transmitted infection. Majority of older age group, answered correctly the meaning of STIs that is disease transmitted through sexual contact in comparison younger age group (n=150vs n= 149), Higher proportion of younger age group had misconception about STIs that is disease transmitted through mosquito bite in (n=24). Only small proportion of younger age group (n=23) knew about syphilis and Gonorrhea (n=3) as a STI . This difference between two group was found to be statistically significant (P<0.001)

Table 17: Variables of adolescents' knowledge and sexual behavior related to whom they talk about sex with and what sources of information they seek about HIV /AIDS OTHER STDs.

VARIABLES OF SOURCE OF INFORMATION	15-16	17-18	TOTAL	Pearson Chi-Square	P-Value
E-MEDIA	70	74	136	541.062	<0.001
MASS MEDIA	12	6	18		
PARENTS	31	0	31		
PEER GROUP	18	58	76		
School/teacher	30	0	30		

TABLE 12: Shows Older age group seek higher proportion of information from E-Media (n=74), followed by peer group (n=58) and least from Mass Media (n=6). Younger age group also seek higher proportion of information from E-media (n=70), followed by parents (n=31), school/teacher (n=30), peer group (n=18) and mass media (n=12).
Statistical difference can be seen between older age group and younger age group regarding openness and gained knowledge from parents and teacher/school in comparison of younger age group. (P<0.001)

Table 18: ASSOCIATION OF AGE GROUP WITH Response regarding SEXUAL ATTITUTUDE AND PRACTICES n=300

		AGE GROUP		Total	Pearson Chi-Square	p-value
		15-16	17-18			
Masturbated during last week	YES	66	111	177	27.306	<0.001
	No	83	39	122		
Stimulus behind masturbation						
Looking pornography	YES	86	137	223	44.556	<0.001
	NO	63	13	76		
Aroused by Romantic Idea	YES	73	146	219	89.131	<0.001
	No	76	4	80		
With sexual contact	YES	99	149	248	57.156	<0.001
	No	50	1	51		
FEELING AFTER MASTURBATION						
FELT SATISFIED	YES	65	150	215	117.603	<0.001
	No	84	0	84		
Have sense of guilt	YES	149	128	277	23.589	<0.001
	NO	0	22	22		
Would harm body &soul	YES	149	135	284	15.687	<0.001
	NO	0	15	15		
IS MASTURBATION HEALTHY	YES	0	38	38	43.242	0.000
	NO	149	112	261		
Attending late night party is likely to increase indulgence in sex	YES	14	150	164	247.780	<0.001
	NO	135	0	135		
Consumption of alcohol is likely to increase indulgence in sex	YES	89	150	239	75.567	<0.001
	NO	60	0	60		

TABLE 18: Practice of masturbation was more common in older age group than in younger age gp (n=111 VS n=66). Older age group (n=149) used romantic ideas in comparison of younger age group which believed sexual contact(n=99), a stimulus behind masturbation. The difference between two age group was statistically significant. Significant number of older group (n=150) felt satisfied after masturbation in comparison of younger age group (n=149) which felt a sense of guilt after masturbation. This difference between two age group was found to be statistically significant (P<0.001). Higher proportion of younger age group (n=149) felt worried about excessive masturbation.

Higher proportion of older age group in comparison of younger age group (n=150 VS n=14) accepts attending late night party is likely to increase indulgence in sex and also (n=142 vs n=97) believed consumption of alcohol is likely to increase indulgence in sex

In all domains difference between two age group was found to be statistically significant (P<0.001).

DISCUSSION

The present observational cross-sectional study was carried out in Department of Paediatrics, Santosh Medical College, Ghaziabad and Urban area of district Ghaziabad. The aim of the study was to Assess Sexuality and Sexual Concern among Adolescents.

The study population comprised of Adolescents between 15 to 18 years, studying in the selected schools of urban Ghaziabad. In the study Out of 300 Respondent 57.8 % (n=173) Were Male; 42.1 (n=126) were Female. Maximum Proportion of Participation was from 16 And 17yr Age Group i.e., 25.4% respectively. 24.4% were from 15yr Age Group and 24.7 % From 18yrs. More number of students were studying in class 12^{th} i.e., 50.2%. More Than Half Respondent i.e., 60.2% Belong to Joint Family And 39.2% From Nuclear Family With 57.9% From Upper Middle SES And 42.1 % From Upper Class SES as shown in **Table1**.

Similar study conducted by Gupta et al in a study at Meerut reported 30.8% in the age group of 10 to 13 years, 27.3% in the age group of 14 to 15 years and 41.9% in the age group of 16 to 19 years while in Uttar Pradesh, the adolescents (10-19 years) total population is 24.5% respectively according to Census. [94,95] The adolescents predominantly (66.1%) belonged to upper and upper middle socioeconomic status. Only 7.9% students were from lower socioeconomic status that is contrary to the findings of Gupta et al in which adolescents were predominantly belonged to lower middle (43.1%) and upper lower (38.4%) socioeconomic status.[94]

Adolescence is a period when adolescents undergo intense biological and psychological modifications, while at the same time they feel the need to have new experiences which can make them vulnerable to HIV/AIDS and other STD infections. Exercising sexuality in adolescence is vulnerable due to inadequate protection, often associated with STDs, and considered as one of the public health problems.[96]

HIV/ AIDS RELATED KNOWLEDGE

In our study . 100% respondents heard about the HIV/AIDS. About Its transmission, majority (97.0%) answered sexual contact, 5% answered blood and blood product, 3% stated sharing of used needle and syringe. Some respondents had misconceptions regarding transmission of HIV/AIDS. They stated that HIV/AIDS is transmitted through hugging (3.3%) and sharing of food eaten by infected person (3%) as shown in **Table 2**.

The finding our study showed higher proportion of boys had good awareness about the mode of transmission of HIV /AIDS and its prevention in comparison of girls **Table 9**. In comparison, to our study result , a study published and conducted by the ICMR (Indian Council of Medical Research) in higher secondary schools in rural areas of 22 districts and 14 states, showed only 13% of adolescent knew that multiple sex partners increased the risk of HIV infection[97].

It should be noted that significant number of younger age adolescent (n=148) were not aware of transmission of HIV/AIDS can be through sharing of used needle and syringe. Also Some younger age group had misconception of transmission through sharing food and hugging in comparison of older age group **Table 14** This is in accordance with other community based studies [98,99,100]that revealed the level of awareness ranging between 35.82% and 84.8%, whereas the National Family Health Survey (NFHS –IV) for Uttar Pradesh revealed the state level awareness at 26.4%[101].

The results of our study point out that there are still doubts among participants about the HIV/AIDS reiterating the importance of working on this topic, especially considering that some thought that these diseases can be acquired by hand contact, kissing, hugging, sharing objects as infected people.

Although approximately three fourth of the adolescents were aware that the use of condom as a mode of prevention for the spread of HIVs /AIDS with male and female awareness of n=172 and n=119 respectively, A rapid household survey under the Reproductive and Child Health Programme showed that in district Baramulla, use of condoms in each intercourse was vouched as a preventive method by 81.3 percent of males and 73.3 percent of Female[102].

KNOWLEDGE ABOUT STI OTHER THAN HIV/AIDS

In our study, most of the study participants especially boys had relevant knowledge about meaning of sexually transmitted infection and were unaware of their forms of infection/transmission other than HIV/AIDS like syphilis, gonorrhoea as shown in **Table 4.**

The findings of our study indicated that knowledge about STIs other than HIV/AIDS was very poor among adolescent girls. As (n =13) girls believed STI's can occur through mosquito bite. Almost half had not heard about Gonorrhoea (n=36) or Syphilis (n=19) as shown **Table 11**. It is of great concern in the developing countries like India, as STIs such as Chlamydia, Trichomoniasis, Syphilis and Gonorrhea as it effects to maternal morbidity and mortality as

the cause of death, illness and Also the years of healthy life is lost among women in their child bearing years[103].

Comparison of gender findings regarding the knowledge of various Sexually transmitted disease is difficult as there are no published studies in India investigating the STI knowledge (other than HIV/AIDs) of adolescent students. Lal et al conducted a study regarding awareness of sign and symptom of STD's in college student in Kerala. The result of that study showed that 34% were aware of the symptoms of STI's [104].

In our study Small proportion of younger age group (n=23) & (n=3) knew about Syphillis and Gonorrhoea as STI's It is imperative to note that the knowledge about STIs other than HIV/AIDS was very poor among younger age group had many doubts and uncertainties at the same time as shown in **Table 16.**

A Significant percentage of participants knew AIDS as an STI. However, the rate fell rapidly to unsatisfactory levels for other STIs. This signifies that a comprehensive program of information, education and communication concentrated on AIDS with little or no emphasis given to other STIs. Although accurate knowledge alone is insufficient to produce changes in attitude and behaviour, it is a necessary component towards a person's developing the motivation to change his or her behaviour [105,106]**.** There were also some misconceptions as considerable number of students perceived leukaemia and rheumatoid arthritis as STIs. Higson et al. 1990 suggested that people's misconception and lack of knowledge about the major non-HIV STIs put them more at risk for consequences of their sexual behaviour[107]. So, educational activities through workshops allow adolescents to clarify their doubts about STDs, as well as help prevent their occurrence. From this perspective, school-based sex education becomes essential in promoting protected sexual relations between adolescents and young people.

KNOWLEDGE REGARDING SEXUAL REPRODUCTIVE HEALTH (SRH)

Our findings suggest, all the respondents, i.e., 100% knew the legal age of marriage. Among them, more than half, 57.9 % Respondents had knowledge female secondary sexual character and 42.1% respondents had knowledge of male secondary sexual character.75. 6% had knowledge regarding pregnancy after sexual intercourse. Regarding temporary family planning devices, majority (97.3%) replied condom & oral pills. This result is in line with **Sachdev et al**,[108] **Virk et al**[109] revealed that 76.3% had correct knowledge about reproductive health issues.

According to the National Family Health Survey of India, only 36% of male and 20% of female adolescents have comprehensive knowledge of reproductive health[110].

SEXUALITY AND SEXUAL BEHAVIOUR

A turbulence of hormonal, emotional and social changes occur at around nine to ten years of age, scripts the rediscovery of the body as a source of pleasure, with manifestations of appearance as looking good, affection and desire for people outside the family environment. Such interest may stimulate the onset of sexual activity[111].

The human species is probably the only one to practice masturbation and often is regarded as an appropriate sexual outlet for them[112]Masturbation is universally practiced ranging from 10% to 33% among girls and 39.7% to 63% among boys. [111,113]. There is a significant Gender differences in masturbation is among the largest and most consistent of any aspect of sexual behavior.[114] Reasons behind the gender differences is not well understood. Ancient studies suggest that regular masturbation maintains semen and sperm quality,[115] and regular masturbation together with wet dreams has been suggested to maintain healthy sperm quality in humans as well.[116]However, masturbation has also been associated with sexual activity in that earlier the age of initiation more the sexual activity.

Our result shows Practice of masturbation was more common in boys than in girls with no statistical difference (n=96 VS n=81, p=0.1265) as shown in **Table 13** this finding is comparable to the findings by Sathe et al[117] that 47% of the boys indulged in masturbation and Ramadugu et al found that more boys (45.9%) than girls (12.7%) indulged in the practice of masturbation but studies by Sharma et al [118]revealed that 30.2% of the adolescent girls had masturbated, Virk et al revealed that 18.7% had a positive attitude towards masturbation[109]**.**

Findings in our study revealed Practice of masturbation was more common in older age group than in younger age gp (n=111 VS n=66). Older age group (n=149) used romantic ideas in comparison of younger age group which believed sexual contact(n=99), a stimulus behind masturbation as shown in **Table 18.** Cynthia L. et al study showed that more males (73.8%) masturbated than females (48.1%). His study also showed that in males, masturbation occurrence increased with age: at age 14 years, 62.6% of males reported masturbated at least prior its occurrence, whereas 80% of 17-year-old males reported ever having masturbated. In females, prior masturbation increased with age (58% at age 17 years compared with 43.3% at age 14 years)[119].

The present study shows 59.2% masturbated during last week. 73.2%Adolescent used romantic ideas, 71.9 % used pornographic material and 57.5% used sexual contact as their stimuli for masturbation. 95.0% adolescent believed masturbation will harm the body while 92.6% had sense of guilt and 71.9% felt satisfied after masturbation. 38% are worried about excessive masturbation as shown in **Table 6.** The present study also revealed that excessive masturbation among adolescents was associated with a widespread sense of worry and feelings of guilt. Similar notions among adolescents from other parts of the country have also been noted [120]. Pornographic materials and romantic ideas were reported to be the most important stimuli for masturbation.

Partying together for fun or to celebrate an occasion is not quite uncommon among school going adolescents. When girls do attend parties, they do so in a group and stay as a group. This helps them in keeping boys at bay and prevents them from making sexual advances. However, as the party prolongs the group tends to break up and leads to a let up in such defense.[121,122]

In this context we wanted to know if these adolescents believed that partying late into the night would lead to increased indulgence in sexual activity. We found that n=99 girls and n=65 boys agreed that such parties do lead to increased chances of indulging in sexual activities as shown in **Table 13**

Late night parties are often associated with use of alcohol by students. Alcohol has been varyingly related to indulgence in sexual activity among adolescent boys and girls, but many do agree that alcohol increases indulgence in sexual activity. [123,124]

We studied the view of the students in regard to role of alcohol in increasing the chances of indulgence in sexual activities. We found n=142 boys &n=97 accepts consumption of alcohol increases sexual activity but significant difference seen **(Table 13)**

We also found Higher proportion of older age group in comparison of younger age group (n=150 VS n=14) accepts attending late night party is likely to increase indulgence in sex and also (n=142 vs n=97) believed consumption of alcohol is likely to increase indulgence in sex difference between two age group was found to be statistically significant (P<0.001), **(table 18)**

The present study found that adolescents seek higher proportion of information from E-Media (48.2%), followed by peer group (25.4%) and least from Mass Media (6.0%) Respondent are less open and gained less knowledge from parents (10.4%) and teacher/school (10.0%) **Table**

7 . However, it should be noted that seeking parents for information occurred for about (10.4%) of the adolescents. The present showed none of older age group seek information from parents in comparison of younger age group.

This finding is a relevant fact, considering that nowadays parents have little time to dedicate themselves to their children, often transferring this responsibility to the school.[125,126] It is worth noting that other sources are not always well prepared to provide adequate guidance (E-Media, peer gp). Schools based sex education should be promoted because adolescents spend most of their time school and also because it is a place for socialization, and informative training centre. Given these aspects, schools should be considered as a primary centre of health services in order to promote a commitment to adolescents' own sexuality.[127]

In addition to increasing health awareness, make it as a preventive policy and education as a protective factor. One of the study[128] suggest that sexual activity and consequently STD infections tend to decrease by increasing the levels of schooling, as well as having good relationships with their parents reduces the chances of adolescents getting involved in sexual relations.[129] Thus, encouraging adolescents and young people to conversate with their parents and with this there will be an increase in education in the country and further will have good family relationships. so, pursue education beyond basic education may have an immediate effect.[130,131]

SUMMARY AND CONCLUSION

In our study respondents had sound knowledge reading the transmission of HIV/AIDS through sexual contact but less percentage of respondent were aware of other mode of transmission of HIV/AIDS like blood and blood product and sharing of needle. Few respondents had misconception the transmission of HIV/AIDS through hugging and sharing.

All the respondents knew the meaning of Sexual transmitted infection through sexual contact but some had doubt regarding transmission of STI through mosquito bite. Less number of respondents were aware of Syphilis and Gonorrhoea as sexually transmitted disease.

In our study Knowledge regarding sexuality and sexual behaviours shows association masturbation experience intercourse experience, sexual satisfaction, sexual arousal in relationships during young adulthood. No such linkage was observed, suggesting that early masturbation experience is neither beneficial nor harmful to sexual adjustment in young adulthood.

In our study respondent gathered maximum information from E-media, followed by peer group least from Mass Media. Respondent are less open and gained less knowledge from parents.

We should highlight the importance of promoting adolescent health through information and school activities that also include families, as well as the union between health services and teachers with the aim to empower these adolescents in regards to decisions on safe sexual practices. Considering that early initiation of sexual activities may lead to greater vulnerability to sexually transmitted diseases, it is considered necessary to develop educational strategies to minimize negative health outcomes.

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ANNEXURE I

CONSENT FORM

Name of patient: Age: Sex:

Address:

I _____ give my full,free and voluntary consent to be subject of the study titled **"Assess Sexuality and Sexual Concern among Adolescence"**. I have been explained the procedures involved, their consequencies and the nature of the study being conducted in the language I understand. I have fully understood the same and am willing to give my consent for the study.

Signature of witness 1 Signature of the patient

Signature of witness 2 Date:

ANNEXURE II

सहमति

मरीज नाम: आयु : सेक्स:

पता:

मैं _____ अध्ययन प्रक्रिया "Assess Sexuality and Sexual Concern among Adolescence" के स्थानीयकरण में मार्गदर्शन करना, में भाग के लिए अनुमति देने के लिए तैयार हूँ, जो की Dr (चिकित्सक) SONU GREWAL पेडियेटिक्स के विभाग द्वारा, संतोष मेडिकल कॉलेज और अस्पताल में किया जा रहा । उनके परिणामों और मुझे समझ में भाषा में आयोजित किया जा रहा अध्ययन की प्रकृति समझाया गया है। मैं अध्ययन के लिए पूर्ण, स्वतंत्र और स्वैच्छिक सहमति देने के लिए तैयार हूँ

1 गवाह के हस्ताक्षर रोगी के हस्ताक्षर

2 गवाह के हस्ताक्षर दिनांक:

ANNEXURE III

SELF ASSISTED QUESTIONNAIRE

CLASS:

SEX : MALE/ FEMALE

FAMILY: NUCLEAR/JOINT

SOCIOECONOMICAL STATUS: UPPER CLASS /UPPER MIDDLE CLASS

1. **Does Hiv/Aids Spread Through Sexual Contact ?** **Yes** **No**
2. **Does Hiv/Aids Spread Through Blood ?** **Yes** **No**
3. **Does Hiv/Aids Spread Through Kissing?** **Yes** **No**
4. **Does Hiv/Aids Spread Through Hugging?** **Yes** **No**
5. **Does Hiv/Kids Spread Through Eating Together With The Infected Person?** **Yes** **No**
6. **Does Hiv/Aids Spread Through Sterilized Needle?** **Yes** **No**
7. **Does Hiv Spread Through Giving Birth By Hiv+Mother?** **Yes** **No**

Does Hiv Spread Through Mosquito Bite ? **Yes** **No**

8. **Is Syphilis A Sexually Transmitted Infection?** **Yes** **No**
9. **Is Hepatitis B Sexually Transmitted Infection?** **Yes** **No**
10. **Appearance Of Hair Under Armpit And Groin Area?** **Yes** **No**
11. **Has Your Breast Size Increased?** **Yes** **No**
12. **Has Your Mensturation Started?** **Yes** **No**
13. **Appearance Of Hair Over Face, Under Arm Pit And Groin Area?** **Yes** **No**

Has The Penile Enlargement Started? **Yes** **No**

14. **Has Your Voice Started To Change?** **Yes** **No**
15. **Is Masturbation Healthy?** **Yes** **No**
16. **Do You Masturbate After Looking Pornographic Videos?** **Yes** **No**
17. **Do You Masturbate Getting Aroused By Romantic Videos?** **Yes** **No**
18. **Do You Feel Satisfied Afer Masturbation?** **Yes** **No**
19. **Do You Feel Guilty After Masturbation ?** **Yes** **No**
20. **Does Masturbation Harm Body And Soul ?** **Yes** **No**
21. **Did You Masturbate During Last Week?** **Yes** **No**
22. **Did You Ever Had A Sexual Relationship?** **Yes** **No**
23. **Did The Sexual Relationship Involved The Penetration Of Sexual Organs ?** **Yes** **No**

ANNEXURE III

24. Do You Use Condom While Sexual Relationship? Yes No

25. Does Using Condom Good For Sexual Health ? Yes No

26. Is Late Night Party Associated With Indulgence Of Sex ? Yes No

27. Is Consumption Of Alcohol Associated With Indulgence Of Sex? Yes No

28. Is There Any Legal Age Of Sexual Relationship? Yes No

29. Does The Legal Age Of Marriage 18 Years And Above? Yes No

30. Do You Know How Pregnancy Occurs? Yes No

31. What Was Your Source Of Information Regarding Sexuality?

A) Mass Media

B) Self Reading

C) Parents

D) Peer Group

E) E Media

F) Health Proffesional

G) Any Other

S.NO.	SEX	GENDER CODE	AGE CODE	CLASS CODE	FAMILY CODE	SOCIOEC. STATUS CODE	INFORMATION CODE	SEX CONT. CODE	THRU BC COD	KISSING CODE	HUGGING CODE	EATING CODE	HAIR ARMPIT/GROIN CODE	BREAST SIZE CODE	MENARCHE CODE	APP.OF HAIR ON CHEST/FACE	PENILE ENLARGE. CODE	VOICE CODE	MASTURBATION CODE	SEEING PORN CODE	ROMANTIC VIDEOS CODE	SATISFY CODE	GUILTY CODE	BODY AND SOUL CODE	MASTURBATE LAST WEEK	SEXUAL RELATIONSHIP CODE	PENETRATION CODE	CONDOM CODE	SRH CODE	NEEDLE CODE	HIV + MOTHER CODE	STI THRU SEX CODE	MOSQUITO BITE CODE	HIV CODE	SYPHILIS CODE	HEP B CODE	LEGAL AGE FOR SEXUAL	LEGAL AGE MARRIAGE CODE	LATE NIGHT PARTY CODE	ALCOHOL WITH SEX CODE	PREGNANCY CODE
1	M	X	LA	XII	N	UM	EM	2	1	1	1	2	2	1	2	2	2	2	1	1	1	1	2	2	2	1	1	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2
2	M	Y	LA	XII	N	UM	EM	1	2	1	1	1	2	1	1	2	2	2	2	2	1	2	2	2	2	2	1	1	2	2	2	2	1	2	2	2	2	2	2	2	2	1
3	M	Y	LA	XII	N	UM	EM	2	2	2	1	1	2	1	1	2	2	2	1	1	1	2	2	2	2	1	2	1	2	2	2	2	1	2	2	2	1	2	2	2	2	2
4	M	Y	LA	XII	N	UM	EM	2	2	1	1	2	2	1	1	2	2	2	1	2	2	2	2	2	2	1	2	1	1	2	2	2	1	2	2	2	1	2	2	2	2	1
5	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2
6	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2
7	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2
8	F	X	LA	XII	N	UM	EM	2	2	1	1	1	2	2	2	1	1	1	2	2	2	2	2	1	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	1
9	F	X	LA	XII	N	UM	EM	2	2	1	1	1	2	2	2	1	1	1	2	2	2	2	2	1	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2
10	F	X	LA	XII	N	UM	EM	2	2	1	1	1	2	2	2	1	1	1	2	2	2	2	2	1	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2
11	F	X	LA	XII	N	UM	EM	2	2	1	1	1	2	2	2	1	1	1	1	2	2	2	2	1	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	1
12	F	X	LA	XII	N	UM	EM	2	2	1	1	1	2	2	2	1	1	1	1	2	2	2	2	1	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2
13	F	X	LA	XII	N	UM	EM	2	2	1	1	1	2	2	2	1	1	1	1	2	2	2	2	1	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2
14	F	X	LA	XII	N	UM	EM	2	2	1	1	1	2	2	2	1	1	1	1	2	2	2	2	1	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2
15	F	X	LA	XII	N	UM	EM	2	2	1	1	1	2	2	2	1	1	1	2	2	2	2	2	1	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2
16	F	X	LA	XII	N	UM	EM	2	2	1	1	1	2	2	2	1	1	1	2	2	2	2	2	1	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	1
17	F	X	LA	XII	N	UM	EM	2	2	1	1	1	2	2	2	1	1	1	2	2	2	2	2	1	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	1
18	F	X	LA	XII	N	UM	EM	2	2	1	1	1	2	2	2	1	1	1	1	2	2	2	2	1	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2
19	F	X	LA	XII	N	UM	EM	2	2	1	1	1	2	2	2	1	1	1	1	2	2	2	2	1	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	1
20	F	X	LA	XII	N	UM	EM	2	2	1	1	1	2	2	2	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2
21	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2

22	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2
23	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2
24	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	1
25	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	1
26	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2
17	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2
28	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2
29	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2
30	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2
31	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2
32	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2
33	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	1
34	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2
35	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	1
36	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2
37	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2
38	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2
39	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2
40	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2
41	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2
42	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2
43	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	1
44	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2
45	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2
46	F	X	LA	XII	N	UM	EM	2	2	1	1	1	2	2	2	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2
47	F	X	LA	XII	N	UM	EM	2	2	1	1	1	2	2	2	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2

48	F	X	LA	XII	N	UM	EM	2	2	1	1	1	2	2	2	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	1
49	F	X	LA	XII	N	UM	EM	2	2	1	1	1	2	2	2	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2
50	F	X	LA	XII	N	UM	EM	2	2	1	1	1	2	2	2	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2
51	F	X	LA	XII	N	UM	EM	2	2	1	1	1	2	2	2	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2
52	F	X	LA	XII	N	UM	EM	2	2	1	1	1	2	2	2	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	1
53	F	X	LA	XII	N	UM	EM	2	2	1	1	1	2	2	2	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2
54	F	X	LA	XII	N	UM	EM	2	2	1	1	1	2	2	2	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2
55	F	X	LA	XII	N	UM	EM	2	2	1	1	1	2	2	2	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	1
56	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2
57	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2
58	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2
59	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2
60	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	1
61	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	1
62	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2
63	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	1
64	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2
65	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2
66	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2
67	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2
68	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	1
69	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	1
70	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2
71	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2
72	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2
73	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2

74	M	Y	LA	XII	N	UM	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2
75	M	Y	MA	XII	N	UM	PG	2	2	1	1	1	2	1	1	2	2	2	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2
76	M	Y	MA	XII	N	UM	PG	2	2	1	1	1	2	1	1	2	2	2	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2
77	M	Y	MA	XII	N	UM	PG	2	2	1	1	1	2	1	1	2	2	2	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	1
78	M	Y	MA	XII	N	UM	PG	2	2	1	1	1	2	1	1	2	2	2	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2
79	M	Y	MA	XII	N	UM	PG	2	2	1	1	1	2	1	1	2	2	2	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	1
80	M	Y	MA	XII	N	UM	PG	2	2	1	1	1	2	1	1	2	2	2	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2
81	F	X	MA	XII	N	UM	PG	2	2	1	1	1	2	2	2	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2
82	F	X	MA	XII	N	UM	PG	2	2	1	1	1	2	2	2	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2
83	F	X	MA	XII	N	UM	PG	2	2	1	1	1	2	2	2	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2
84	F	X	MA	XII	N	UM	PG	2	2	1	1	1	2	2	2	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2
85	F	X	MA	XII	N	UM	PG	2	2	1	1	1	2	2	2	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2
87	F	X	MA	XII	N	UM	PG	2	2	1	1	1	2	2	2	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2
88	F	X	MA	XII	N	UM	PG	2	2	1	1	1	2	2	2	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	1	2	2	2	1
89	F	X	MA	XII	N	UM	PG	2	2	1	1	1	2	2	2	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2
90	F	X	MA	XII	N	UM	PG	2	2	1	1	1	2	2	2	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2
91	F	X	MA	XII	N	UM	PG	2	2	1	1	1	2	2	2	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2
92	F	X	MA	XII	N	UM	PG	2	2	1	1	1	2	2	2	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2
93	F	X	MA	XII	N	UM	PG	2	2	1	1	1	2	2	2	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	1	2	2	2	1
94	F	X	MA	XII	N	UM	PG	2	2	1	1	1	2	2	2	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2
95	F	X	MA	XII	N	UM	PG	2	2	1	1	1	2	2	2	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2
96	F	X	MA	XII	N	UM	PG	2	2	1	1	1	2	2	2	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2
97	F	X	MA	XII	N	UM	PG	2	2	1	1	1	2	2	2	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	1	2	2	2	1
98	F	X	MA	XII	N	UM	PG	2	2	1	1	1	2	2	2	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2
99	F	X	MA	XII	N	UM	PG	2	2	1	1	1	2	2	2	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2
100	F	X	MA	XII	N	UM	PG	2	2	1	1	1	2	2	2	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	1	2	2	2	1

| | | |

127	M	Y	MA	XII	J	UM	PG	2	2	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2	2
128	M	Y	MA	XII	J	UM	PG	2	2	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2	2
129	M	Y	MA	XII	J	UM	PG	2	2	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2	2
130	M	Y	MA	XII	J	UM	PG	2	2	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2	2
131	M	Y	MA	XII	J	UM	PG	2	2	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2	2
132	M	Y	MA	XII	J	UM	PG	2	2	1	1	1	1	1	1	2	2	2	1	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2	1
133	M	Y	MA	XII	J	UM	PG	2	2	1	1	1	1	1	1	2	2	2	1	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2	2
134	M	Y	MA	XII	J	UM	PG	2	2	1	1	1	1	1	1	2	2	2	1	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2	2
135	M	Y	MA	XII	J	UM	PG	2	2	1	1	1	1	1	1	2	2	2	1	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2	2
136	M	Y	MA	XII	J	UM	PG	2	2	1	1	1	1	1	1	2	2	2	1	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2	2
137	M	Y	MA	XII	J	UM	PG	2	2	1	1	1	1	1	1	2	2	2	1	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2	1
138	M	Y	MA	XII	J	UM	PG	2	2	1	1	1	1	1	1	2	2	2	1	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2	2
139	M	Y	MA	XII	J	UM	PG	2	2	1	1	1	1	1	1	2	2	2	1	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2	2
140	M	Y	MA	XII	J	UM	PG	2	2	1	1	1	1	1	1	2	2	2	1	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2	2
141	M	Y	MA	XII	J	UM	PG	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2	1
142	M	Y	MA	XII	J	UM	PG	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2	2
143	M	Y	MA	XII	J	UM	PG	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2	2
144	M	Y	MA	XII	J	UM	PG	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2	1
145	M	Y	MA	XII	J	UM	PG	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2	2
146	F	X	MA	XII	J	UM	PG	2	2	1	1	1	2	2	2	1	1	1	1	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2	2
147	F	X	MA	XII	J	UM	PG	2	2	1	1	1	2	2	2	1	1	1	1	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2	2
148	F	X	MA	XII	J	UM	PG	2	2	1	1	1	2	2	2	1	1	1	1	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2	2
149	F	X	MA	XII	J	UM	PG	2	2	1	1	1	2	2	2	1	1	1	1	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2	1
150	F	X	MA	XII	J	UM	PG	2	2	1	1	1	2	2	2	1	1	1	1	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2	1
151	F	X	MA	XII	J	UM	PG	2	2	2	1	1	2	2	2	1	1	1	1	2	1	2	2	2	1	1	2	2	2	2	2	2	1	2	2	1	1	2	2	2	2
152	F	X	MA	XII	J	UM	MM	2	2	2	1	1	2	2	2	1	1	1	1	2	1	2	2	2	1	1	2	2	2	2	2	2	1	2	2	1	1	2	2	2	1

153	F	X	MA	XI	J	UM	MM	2	2	2	1	1	2	2	2	1	1	1	1	2	1	2	2	2	2	1	2	2	2	2	2	2	1	2	2	1	1	2	2	2	2
154	F	X	MA	XI	J	UM	MM	2	2	2	1	1	2	2	2	1	1	1	1	2	1	2	2	2	2	1	2	2	2	2	2	2	1	2	2	1	1	2	2	2	2
155	F	X	MA	XI	J	UM	MM	2	2	2	1	1	2	2	2	1	1	1	1	2	1	2	2	2	2	1	2	2	2	2	2	2	1	2	2	2	1	2	2	2	2
156	M	Y	MA	XI	J	UM	MM	2	2	2	1	1	2	1	1	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	2	1	2	2	2	1	2	2	2	2
157	M	Y	MA	XI	J	UM	MM	2	2	2	1	1	2	1	1	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	2	1	2	2	2	1	2	2	2	1
158	M	Y	MA	XI	J	UM	MM	2	2	2	1	1	2	1	1	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	2	1	2	2	2	1	2	2	2	1
159	M	Y	MA	XI	J	UM	MM	2	2	2	1	1	2	1	1	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	2	1	2	2	2	1	2	2	2	2
160	M	Y	MA	XI	J	UM	MM	2	2	2	1	1	2	1	1	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	2	1	2	2	2	1	2	2	2	2
161	M	Y	MA	XI	J	UM	MM	2	2	2	1	1	2	1	1	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	2	1	2	2	2	1	2	2	2	2
162	M	Y	MA	XI	J	UM	MM	2	2	2	1	1	2	1	1	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	2	1	2	2	2	1	2	2	2	2
163	M	Y	MA	XI	J	UM	MM	2	2	2	1	1	2	1	1	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	2	1	2	2	2	1	2	2	2	2
164	M	Y	MA	XI	J	UM	MM	2	2	2	1	1	2	1	1	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	2	1	2	2	2	1	2	2	2	2
165	M	Y	MA	XI	J	UM	MM	2	2	1	1	1	1	1	1	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	2	1	2	2	2	1	2	2	2	2
166	M	Y	MA	XI	J	UM	MM	2	2	1	1	1	1	1	1	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	2	1	2	2	2	2	2	1	2	1
167	M	Y	MA	XI	J	UM	MM	2	2	1	1	1	1	1	1	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	2	1	2	2	2	2	2	1	2	2
168	M	Y	MA	XI	J	UM	MM	2	2	1	1	1	1	1	1	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	2	1	2	2	2	2	2	1	2	1
169	M	Y	MA	XI	J	UM	MM	2	2	1	1	1	1	1	1	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	2	1	2	2	2	2	2	1	2	2
170	M	Y	MA	XI	J	UM	SR	2	2	1	1	1	1	1	1	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	2	1	2	2	2	2	2	1	2	2
171	M	Y	MA	XI	J	UM	SR	2	2	1	1	1	1	1	1	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	2	1	2	2	2	2	2	1	2	2
172	M	Y	MA	XI	J	UM	SR	2	2	1	1	1	1	1	1	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	2	1	2	2	2	2	2	1	2	2
173	M	Y	MA	XI	J	UM	SR	2	2	1	1	1	1	1	1	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	2	1	2	2	2	2	2	1	2	2
174	M	Y	MA	XI	J	UM	SR	2	2	1	1	1	1	1	1	2	2	2	1	2	1	2	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	1	2	2
175	M	Y	MA	XI	J	UC	SR	2	2	1	1	1	1	1	1	2	2	2	1	2	1	2	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	1	2	2
176	M	Y	MA	XI	J	UC	SR	2	2	1	1	1	1	1	1	2	2	2	1	2	1	2	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	1	2	1
177	M	Y	MA	XI	J	UC	SR	2	2	1	1	1	1	1	1	2	2	2	1	2	1	2	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	1	2	2
178	M	Y	MA	XI	J	UC	SR	2	2	1	1	1	1	1	1	2	2	2	1	2	2	2	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	1	2	2

179	M	Y	MA	XI	J	UC	SR	2	2	1	1	1	1	1	1	2	2	2	1	2	2	2	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	1	2	2
180	M	Y	MA	XI	J	UC	SR	2	2	1	1	1	1	1	1	2	2	2	1	2	2	2	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	1	2	2
181	F	X	MA	XI	J	UC	SR	2	2	1	1	1	1	2	2	1	1	1	1	2	2	2	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	1	2	1
182	F	X	MA	XI	J	UC	SR	2	2	1	1	1	1	2	2	1	1	1	1	2	2	2	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	1	2	2
183	F	X	MA	XI	J	UC	SR	2	2	1	1	1	1	2	2	1	1	1	1	2	2	2	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	1	2	2
184	F	X	MA	XI	J	UC	SR	2	2	1	1	1	1	2	2	1	1	1	1	2	2	2	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	1	2	2
185	F	X	MA	XI	J	UC	SR	2	2	1	1	1	1	2	2	1	1	1	1	2	2	2	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	1	2	1
186	F	X	MA	XI	J	UC	SR	2	2	1	1	1	1	2	2	1	1	1	1	2	2	2	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	1	2	2
187	F	X	MA	XI	J	UC	SR	2	2	1	1	1	1	2	2	1	1	1	1	2	2	2	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	1	2	2
188	F	X	MA	XI	J	UC	SR	2	2	1	1	1	1	2	2	1	1	1	1	2	2	2	2	2	2	1	2	1	2	2	2	2	1	2	2	2	2	2	1	2	1
189	F	X	MA	XI	J	UC	SR	2	2	1	1	1	1	2	2	1	1	1	1	2	2	2	2	2	2	1	2	2	2	2	2	2	1	2	2	2	2	2	1	2	2
190	F	X	MA	XI	J	UC	SR	2	2	1	1	1	1	2	2	1	1	1	1	2	2	2	2	2	2	1	2	2	2	2	2	2	1	2	2	2	2	2	1	2	2
191	F	X	MA	XI	J	UC	SR	2	2	1	1	1	1	2	2	1	1	1	1	2	2	2	2	2	2	1	2	2	2	2	2	2	1	2	2	2	2	2	1	2	2
192	F	X	MA	XI	J	UC	SR	2	2	1	1	1	2	2	2	1	1	1	1	2	2	2	2	2	2	1	2	2	2	2	2	2	1	2	2	2	2	2	1	2	2
193	F	X	MA	XI	J	UC	SR	2	2	1	1	1	2	2	2	1	1	1	1	2	2	2	2	2	2	1	2	2	2	2	2	2	1	2	2	2	2	2	1	2	1
194	F	X	MA	XI	J	UC	SR	2	2	1	1	1	2	2	2	1	1	1	1	2	2	2	2	2	2	1	2	2	2	2	2	2	1	2	2	2	2	2	1	2	1
195	F	X	MA	XI	J	UC	SR	2	2	1	1	1	2	2	2	1	1	1	1	2	2	2	2	2	2	1	2	2	2	2	2	2	1	2	2	2	2	2	1	2	2
196	F	X	MA	XI	J	UC	SR	2	2	1	1	1	2	2	2	1	1	1	1	2	2	1	2	2	2	1	2	2	2	2	2	2	1	2	2	2	2	2	1	2	1
197	F	X	MA	XI	J	UC	SR	2	2	1	1	1	2	2	2	1	1	1	1	2	2	1	2	2	2	1	2	2	2	2	2	2	1	2	2	2	2	2	1	2	2
198	F	X	MA	XI	J	UC	SR	2	2	1	1	1	2	2	2	1	1	1	1	2	2	1	2	2	2	1	2	2	2	2	2	2	1	2	2	2	2	2	1	2	2
199	F	X	MA	XI	J	UC	SR	2	2	1	1	1	2	2	2	1	1	1	1	2	2	1	2	2	2	1	2	2	2	2	2	2	1	2	2	2	2	2	1	2	2
200	M	Y	MA	XI	J	UC	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	2	2	2	2	1	2	2	2	1	2	2	1	2	2	2	2	2	1	2	2
201	M	Y	MA	XI	J	UC	EM	2	2	1	1	2	2	1	1	2	2	2	1	2	1	1	2	2	2	1	2	2	2	1	2	2	2	2	2	2	1	2	1	2	1
202	M	Y	MA	XI	J	UC	EM	2	2	1	1	2	2	1	1	2	2	2	1	2	1	1	2	2	2	1	2	2	2	1	2	2	2	2	2	2	1	2	1	2	1
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205	M	Y	MA	XI	J	UC	EM	2	2	1	1	2	2	1	1	2	2	2	1	1	1	2	2	2	2	1	2	2	2	1	2	2	2	2	2	2	1	2	1	2	2
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231	M	Y	MA	X	J	UC	EM	2	2	1	1	1	1	1	1	2	2	2	1	1	1	1	2	2	1	2	2	1	2	2	2	2	1	2	2	2	1	2	1	2	2
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244	M	Y	MA	X	J	UC	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	1	1	2	2	1	1	2	1	2	2	2	2	1	2	2	2	1	2	1	1	2
245	F	X	MA	X	J	UC	EM	2	2	1	1	1	2	2	2	1	1	1	1	2	1	1	2	2	1	1	2	1	2	2	2	2	1	2	2	2	1	2	1	1	1
246	F	X	MA	X	J	UC	EM	2	2	1	1	1	2	2	2	1	1	1	1	2	1	1	2	2	1	1	2	1	2	2	2	2	1	2	2	2	1	2	1	1	1
247	F	X	MA	X	J	UC	EM	2	2	1	1	1	2	2	2	1	1	1	1	2	1	1	2	2	1	1	2	1	2	2	2	2	1	2	2	2	1	2	1	1	2
248	F	X	MA	X	J	UC	EM	2	2	1	1	1	2	2	2	1	1	1	1	2	1	1	2	2	1	1	2	1	2	2	2	2	1	2	2	2	1	2	1	1	2
249	F	X	MA	X	J	UC	EM	2	2	1	1	1	2	2	2	1	1	1	1	2	1	1	2	2	1	1	2	1	2	2	2	2	1	2	2	2	1	2	1	1	2
250	F	X	MA	X	J	UC	EM	2	2	1	1	1	2	2	2	1	1	1	1	2	1	1	2	2	1	1	2	1	2	2	2	2	1	2	2	2	1	2	1	1	2
251	F	X	MA	X	J	UC	EM	2	2	1	1	1	2	2	2	1	1	1	1	2	2	1	2	2	1	1	1	1	2	2	2	2	1	2	2	2	1	2	1	1	2
252	F	X	MA	X	J	UC	EM	2	2	1	1	1	2	2	2	1	1	1	1	2	2	1	2	2	1	1	1	1	2	2	2	2	1	2	2	2	1	2	1	1	2
253	F	X	MA	X	J	UC	EM	2	2	1	1	1	2	2	2	1	1	1	1	2	2	1	2	2	1	1	1	1	2	2	2	2	1	2	2	2	1	2	1	1	2
254	F	X	MA	X	J	UC	EM	2	2	1	1	1	2	2	2	1	1	1	1	2	2	1	2	2	1	1	1	1	2	2	2	2	1	2	2	2	1	2	1	1	1
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256	M	Y	MA	X	J	UC	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	1	2	2	1	1	1	1	2	2	2	2	1	2	2	2	1	2	1	1	1

257	M	Y	MA	X	J	UC	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	1	2	2	1	1	1	1	2	2	2	2	1	2	2	2	1	2	1	1	2
258	M	Y	MA	X	J	UC	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	1	2	2	1	1	1	1	2	2	2	2	1	2	2	2	1	2	1	1	2
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268	M	Y	MA	X	J	UC	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	1	2	2	1	1	1	1	2	2	2	2	1	2	2	2	1	2	1	1	2
269	M	Y	MA	X	J	UC	EM	2	2	1	1	1	2	1	1	2	2	2	1	2	2	1	2	2	1	1	1	1	2	2	2	2	1	2	2	2	1	2	1	1	2
270	M	Y	MA	X	J	UC	P	2	2	1	1	1	2	1	1	2	2	2	1	1	2	1	2	2	1	1	1	1	2	2	2	2	1	2	2	2	1	2	1	1	2
271	M	Y	MA	X	J	UC	P	2	2	1	1	1	2	1	1	2	2	2	1	1	2	1	2	2	1	1	1	1	2	2	2	2	1	2	2	2	1	2	1	1	1
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274	M	Y	MA	X	J	UC	P	2	2	1	1	1	2	1	1	2	2	2	1	1	2	1	2	2	1	1	1	1	2	2	2	2	1	2	2	2	1	2	1	1	1
275	M	Y	MA	X	J	UC	P	2	2	1	1	1	2	1	1	2	2	2	1	1	2	1	2	2	1	1	1	1	2	2	2	2	1	2	2	2	1	2	1	1	2
276	M	Y	MA	X	J	UC	P	2	2	1	1	1	2	1	1	2	2	2	1	1	2	1	2	2	1	1	1	1	2	2	2	2	1	2	2	2	1	2	1	1	2
277	M	Y	MA	X	J	UC	P	2	2	1	1	1	2	1	1	2	2	2	1	1	2	1	2	2	1	1	1	1	2	2	2	2	1	2	2	2	1	2	1	1	2
278	M	Y	MA	X	J	UC	P	2	2	1	1	1	2	1	1	2	2	2	1	1	2	1	2	2	1	1	1	1	2	2	2	2	1	2	1	2	1	2	1	1	2
279	M	Y	MA	X	J	UC	P	2	2	1	1	1	2	1	1	2	2	2	1	1	2	1	2	2	1	1	1	1	2	2	2	2	1	2	1	2	1	2	1	1	2
280	F	X	MA	X	J	UC	P	2	2	1	1	1	2	2	2	1	1	1	1	1	2	1	2	2	1	1	1	1	2	2	2	2	1	2	1	2	1	2	1	1	2
281	F	X	MA	X	N	UC	P	2	2	1	1	1	2	2	2	1	1	1	1	1	2	1	2	2	1	1	1	1	2	2	2	2	1	2	1	2	1	2	1	1	2
282	F	X	MA	X	N	UC	P	2	2	1	1	1	2	2	2	1	1	1	1	1	2	1	2	2	1	1	1	1	2	2	2	2	1	2	1	2	1	2	1	1	2

283	F	X	MA	X	N	UC	P	2	2	1	1	1	2	2	2	1	1	1	1	1	2	1	2	2	1	1	1	1	2	2	2	2	1	2	1	2	1	2	1	1	2
284	F	X	MA	X	N	UC	P	2	2	1	1	1	2	2	2	1	1	1	1	1	2	1	2	2	1	1	1	1	2	2	2	2	1	2	1	2	1	2	1	1	2
285	F	X	MA	X	N	UC	P	2	2	1	1	1	2	2	2	1	1	1	1	1	2	1	2	2	1	1	1	1	2	2	2	2	1	2	1	2	1	2	1	1	2
286	F	X	MA	X	N	UC	P	2	2	1	1	1	2	2	2	1	1	1	1	1	2	1	2	2	1	1	1	1	1	2	2	2	1	2	1	2	1	2	1	1	2
287	F	X	MA	X	N	UC	P	2	2	1	1	1	2	2	2	1	1	1	1	1	2	1	2	2	1	1	1	1	1	2	2	2	1	2	1	2	1	2	1	1	2
288	F	X	MA	X	N	UC	P	2	2	1	1	1	2	2	2	1	1	1	1	1	2	1	2	2	1	1	1	1	1	2	2	2	1	2	1	2	1	2	1	1	2
289	F	X	MA	X	N	UC	P	2	2	1	1	1	2	2	2	1	1	1	1	1	2	1	2	2	1	1	1	1	1	2	2	2	1	2	1	2	1	2	1	1	2
290	F	X	MA	X	N	UC	P	2	2	1	1	1	2	2	2	1	1	1	1	1	2	1	2	2	1	1	1	1	1	2	2	2	1	2	1	2	1	2	1	1	1
291	F	X	MA	X	N	UC	P	1	2	1	2	1	2	2	2	1	1	1	1	1	2	1	2	2	1	1	1	1	1	2	2	2	1	2	1	2	1	2	1	1	2
292	F	X	MA	X	N	UC	P	1	2	1	2	1	2	2	2	1	1	1	1	1	2	1	2	2	1	1	1	1	1	2	2	2	1	2	1	2	1	2	1	1	2
293	F	X	MA	X	N	UC	P	1	1	1	2	1	2	2	2	1	1	1	1	1	2	1	2	2	1	1	1	1	2	2	2	2	1	2	1	2	1	2	1	1	2
294	F	X	MA	X	N	UC	P	1	1	1	2	1	2	2	2	1	1	1	1	1	2	1	2	2	1	1	1	1	2	2	2	2	1	2	1	2	1	2	1	1	2
295	F	X	MA	X	N	UC	P	1	1	1	2	1	2	2	2	1	1	1	1	1	2	1	2	2	1	1	1	1	2	2	2	2	1	2	1	2	1	2	1	1	2
296	F	X	MA	X	N	UC	P	1	1	1	2	1	2	2	2	1	1	1	1	1	2	1	2	2	1	1	1	1	2	2	2	2	1	2	1	2	1	2	1	1	2
297	F	X	MA	X	N	UC	P	1	1	1	2	1	2	2	2	1	1	1	1	1	2	1	2	2	1	1	1	1	2	2	2	2	1	2	1	2	1	2	1	1	2
298	F	X	MA	X	N	UC	P	1	1	1	2	1	2	2	2	1	1	1	1	1	2	1	2	2	1	1	1	1	2	2	2	2	1	2	1	2	1	2	1	1	1
299	M	Y	MA	X	N	UC	P	1	1	1	2	1	2	1	1	2	2	2	1	1	2	1	2	2	1	1	1	1	2	2	2	2	1	2	1	2	1	2	1	1	2
300	M	Y	MA	X	N	UC	P	1	1	1	2	1	2	1	1	2	2	2	1	1	2	1	2	2	1	1	1	1	2	2	2	2	1	2	1	2	1	2	1	1	2